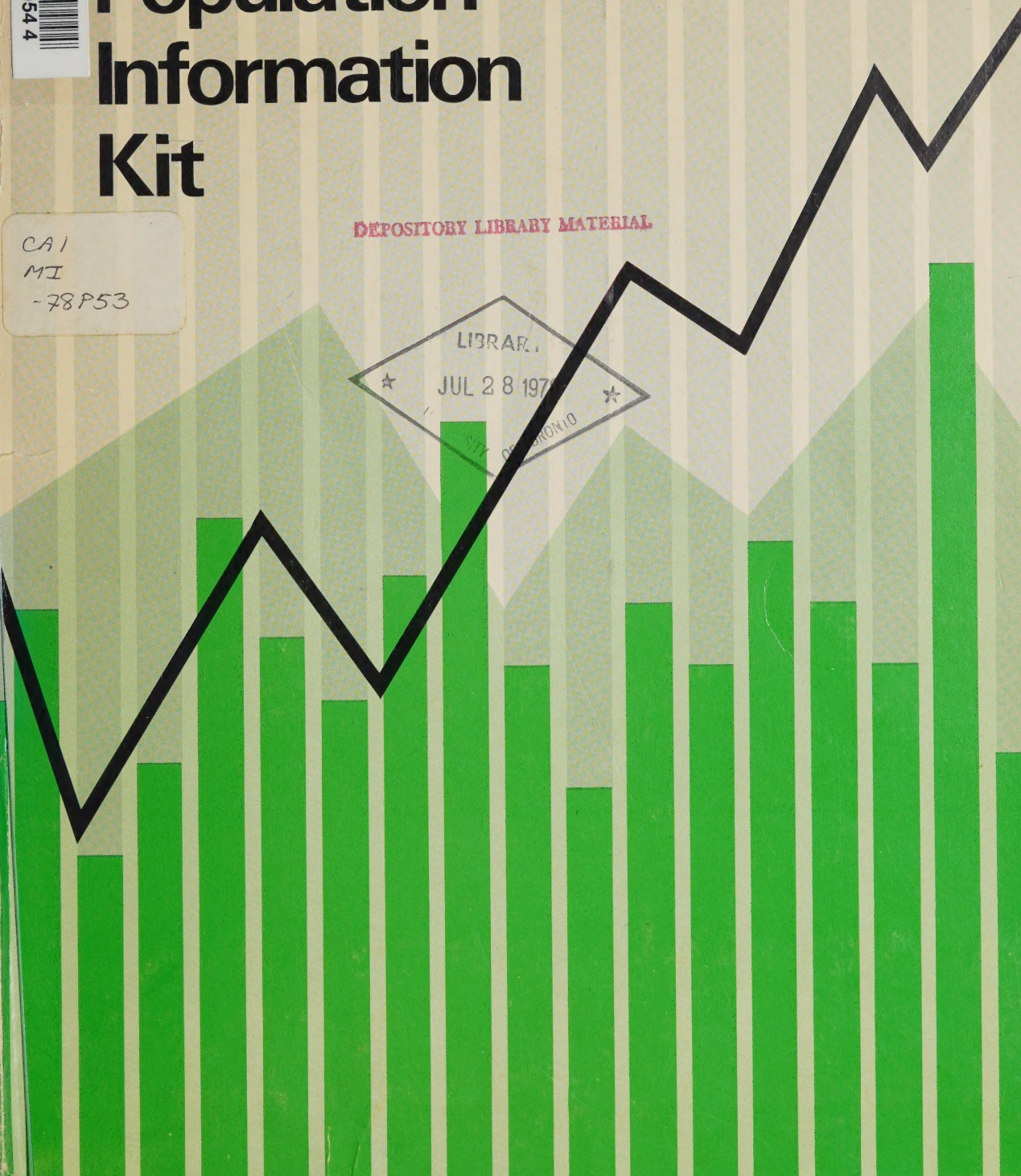
Employment and Immigration Canada

Emploi et Immigration Canada

Population Information Kit



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changeably; total immigration and net immigration figures have been confused.
Schools and colleges also need a clear and accurate source of information, especially since current policy issues are being examined with greater frequency in educational institutions, at the public and secondary levels as well as in colleges and universities. Yet there hasn't been a single Canadian population text or reference work suitable for pre-college instruction and learning.

What the Kit Contains

The Kit is divided into two main parts: the booklet includes some basic data, terms, and sources; the charts and graphs, which have been designed for easy updating, also provide, on the reverse side, the explanations and discussions needed to make the information understandable and to place it in context.

How to Use the Kit

The first item in the booklet provides, on page one, basic Canadian population figures for 1976. The definitions which follow are designed to explain population terms and ideas in clear, non-technical language, and to indicate how the reader can easily use future data to update the basic information on the data sheet. Information sources — books, (films, slide and filmstrip presentations, and research and training institutions — are then listed, to enable the user to pursue in more depth any population topic or aspect which captures the interest.
The charts and graphs illustrate and explain basic population variables. Demographers usually divide the study of population into three general areas: size and rate of growth, geographic distribution, and composition (or structure), which incorporates such aspects as age structure, dependency ratios, linguistic composition, educational cohorts, and family and household formations. There are charts and graphs illustrating the Canadian experience in all three areas; each begins by placing Canadian trends in an international context. It is intended that the charts and graphs will be updated from time to time as new information becomes available.
The user who isn't yet familiar with population terms and ideas may wish to begin by looking at the definitions, while referring to the basic data.
The individual charts and graphs show how trends have changed through time, and how they have been projected to change in the future. Finally, the sources listed in the booklet will enable the user to seek further information. The user already familiar with population concepts and terms may go direct to the basic data, the charts and graphs, or the source lists. It is hoped that all readers will be able to put the Kit to frequent and profitable use.

Table of Contents

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Basic Demographic Data for Canada, 1976

Total population:
22,998,000 (estimate for Jan. 1, 1976)
23,143,000 (estimate for July 1, 1976)
23,306,000 (estimate for Jan. 1, 1977)

Births: 364,630

Deaths: 166,490

Natural increase: 198,140

Birth rate: 15.76 births/1000 population (15.8)

Death rate: 7.19 deaths/1000 population (7.2)

Rate of Natural Increase: 8.6/1000 population (.86%)

Immigration: 149,429

Emigration: 39,429 (estimated by subtraction)

Net immigration: 110,000

Net immigration rate: 4.7/1000 population (.47%)

Total annual increase in population: 308,000 (approx.)

Rate of population growth: 1.33% (.86 + .47)

Per Cent of annual growth from natural increase: 64.3%

Per Cent of annual growth from net immigration: 35.7%

Doubling time: 52.6 yrs.

Total fertility rate: 1,800 children per 1,000 women aged 15-49

Sources: *Vital Statistics*, Oct.-Dec. 1976, Statistics Canada, 84-001; *Quarterly Estimates of Population for Canada and the Provinces*, Jan. 1977, Statistics Canada, 91-001.

1 A (ii)
Definitions

Population

A group of objects or organisms of the same kind. In general, "population" is seen as an absolute number at any one time but also as a number that we associate with increase over time. To a biologist, however, a population is a group of similar organisms adapted to the same set of environmental conditions in which interbreeding occurs; thus, all the four billion people inhabiting the planet represent a population.

Demography

Statistical description and analysis of human population in terms of growth, distribution, and structure.

Population policy

Measures instituted by a government to influence population size, rate of growth, distribution, and composition. Such measures may be explicitly embodied in a formal law or pronouncement, or may be implicit in other social and economic policies and programs. "Demographic policy" is often used interchangeably for "population policy".

Birth rate

Usually expressed as births per thousand persons in a population, and obtained as follows:

$$\frac{\text{total annual births}}{\text{mid-year population estimate}} \times 1000 = \text{birth rate}$$

The figures in the basic demographic data sheet for Canada show a birth rate of 15.8 for 1976. This was calculated as follows:

$$\frac{364{,}630}{23{,}143{,}000} \times 1000 = 15.76\ (15.8)$$

Death rate

Usually expressed as deaths per thousand persons in a population, and obtained as follows:

$$\frac{\text{total annual deaths}}{\text{mid-year population estimate}} \times 1000 = \text{death rate}$$

The figures in the basic demographic data sheet for Canada show a death rate of 7.2 for 1976. This was calculated as follows:

$$\frac{166{,}490}{23{,}143{,}000} \times 1000 = 7.19\ (7.2)$$

Rate of natural increase

The birth rate minus the death rate. For 1976, the rate of natural increase based on vital statistics estimates was 8.6 per 1000 population or 0.86 per cent for the year. This means that, leaving immigration out of account for 1976, the total population growth rate would have been 0.86 per cent, i.e., a rate attributable to natural increase.

Total fertility rate

This is not easy to understand because it is a *hypothetical* figure representing the *average* number of children a woman would bear if she passed through her reproductive years experiencing the age-specific fertilities of women as calculated for a one-year period. "Age-specific fertility" means the number of births to 1000 women in a five-year age grouping during a specific time period. Calculations to establish the total fertility rate for Canada in 1974 are shown below.

Calculation of the Total Fertility Rate for Canada, 1974

Age grouping of women	Births per 1000 females[1] (age-specific fertility rate)	Age-specific fertility rate multiplied by five[2]
15-19	35.3	176.5
20-24	113.1	565.5
25-29	131.1	655.5
30-34	66.6	330.0
35-39	23.0	115.0
40-44	5.5	27.5
45-49	0.4	2.0

Total Fertility Rate: 1875.0 per 1000 women
1.88 children/woman

As can be seen, the total fertility rate for Canada in 1974 was 1875 births per 1000 women aged 15-49, or 1.88 births per woman. This figure is a projection of the average number of children that could be expected from all the women aged 15-49 in 1974 *if* they went through their reproductive years experiencing the pattern of fertility (called age-specific fertility rates) exhibited in 1974. The 1976 total fertility rate, based on Statistics Canada estimates, was 1.80.

[1]Each value in this column represents an average age-specific fertility rate. For example, in 1974 it would appear that 13.1% of women aged 25-29 gave birth. The actual percentage is, however, slightly less, because a few women have multiple births.

[2]Each age-specific fertility rate must be multiplied by five before summation to include all five years represented by each age grouping. If all Canadian women aged 15-49 in 1974 followed the age-specific fertility patterns prevalent at that time until the end of their reproductive years, they will have had an average of 1.88 children each.

Completed fertility rate

The average number of children born to women who reach the end of their reproductive years (arbitrarily assumed to end at 49) in the year the measure is taken. For example, in 1975, the completed fertility rate for women aged 50 was about three children. Thus, if at the end of 1975, all women who turned 50 in that year had been asked how many children they had had in their lifetime, the average would have been about three.

Replacement fertility rate

The replacement fertility rate is the number of children per 1000 women aged 15-49 which must be born to ensure that the parents are merely replaced. Assuming no increase from immigration, a replacement fertility rate means that, if maintained, a non-growing (stable) population would result.
In Canada, replacement fertility is approximately 2100 births per 1000 women aged 15-49, on average, or 2.1 children per woman. The rate is 2.1, rather than 2.0, because a few children do not survive to reach their reproductive years, and a rate of 2.1, rather than 2.0, compensates for this loss. In some developing countries, replacement fertility is as high as four or five children per family, on average, because only two will survive to replace the parents.
Many Canadians have associated the term "replacement fertility" with a cessation in growth from natural increase. But as the data base shows, the Canadian birth rate is still more than double the death rate. This is because there are still very many more younger than older people. Thus, for natural increase to become stabilized, it will take another 30 or 40 years of replacement fertility in Canada to create an age structure in which the numbers of young and old are in relative balance.

Gross reproduction rate

The average number of *daughters* that would be born to women passing through their reproductive years if (as with total fertility rate) they maintained the rate calculated at a specific point in time. In 1974, Canada had a gross reproduction rate of 0.891. The 1970 rates for the developed and developing nations were 1.3 and 2.8 respectively.

Net reproduction rate

The average number, per woman, of daughters who would survive to childbearing age if they were subject throughout their lives to the mortality patterns prevailing at the time the rate was calculated. In Canada, although exact data are not available, the figure would be just slightly less than that given for gross reproduction rate. A net reproduction rate of 1.0 is the same as the replacement fertility rate.
The difference between gross and net reproduction rates is generally larger for those developing countries in which infant mortality is high. For example, in 1970, the developing nations had a gross reproduction rate of 2.8, but a net rate of 2.1. There was no significant difference between the two rates in developed countries; the rate was 1.3 for each.

Family planning

Knowledge and practices which enable persons to
(i) avoid unwanted pregnancies;
(ii) bring about wanted births;
(iii) regulate the interval between pregnancies;
(iv) control the time at which births occur in relation to ages of the parents; and
(v) decide the number of children they wish to have.

Abortion

According to the *International Classification of Diseases*, "any interruption of pregnancy before 28 weeks of gestation with a dead fetus." Abortion terminates a pregnancy, whether it occurs spontaneously or is induced. It is estimated that up to one third of all conceptions are spontaneously aborted, most often without the woman's knowledge. In 1974 there were 48,136 induced abortions in Canada which were approved by therapeutic abortion committees in hospitals.

Sterilization

A surgical method of fertility control used most often after people decide they wish to have no more children. The notice of consent for the operation varies by province. In some cases, sterilization is reversible, but it has been, up to the present, considered to be a terminal method of fertility control. *Tubal ligation* is the most commonly used surgical method to sterilize women. Here, the Fallopian tubes are tied and cut, preventing the descent of the ovum to the uterus. *Vasectomy*, the operation performed on the male, interrupts the flow of sperm from the seminal vesicles to the urethra by severing the vas deferens, or sperm duct.

Migration

The act of moving from one country, region, or habitat to another.

Intraprovincial migration

Moving *within* one province. This may include rural to urban, urban to rural, rural to rural, and urban to urban movements.

Interprovincial migration

Moving *between* provinces. For example, it is estimated that, based on 1966-71 data, 435,225 people moved annually between provinces. Assumptions about interprovincial migration are important in projecting future changes in provincial populations.

International migration

Moving between nations. It has two components:

(i) Immigration: the process of entering a country. Those who enter are called immigrants. Canada has accepted an average of 140,000 immigrants per year since World War II (about 150,000 in 1976).

(ii) Emigration: the process of leaving a country. Those who leave are called emigrants. In Canada, emigrants do not have to indicate their intent to emigrate. There are no accurate statistics for Canadian emigration; there are only estimates.

Intercensal emigration data are estimated as *residuals*, i.e., by means of the following equation:

$$\text{Intercensal emigration} = \text{Population on initial census date} - \text{Population on final census date} + \text{Intercensal births} - \text{Intercensal deaths} + \text{Intercensal immigration}$$

The emigration estimates derived from this equation reflect the actual intercensal emigration plus the error involved in all elements on the right hand side of the equation.

Net immigration

The difference between immigration into and emigration from a country, usually calculated for a particular year. This term has also been called net international migration. Net immigration to Canada in 1976 was estimated at 110,000.

Net immigration rate

Usually expressed by net immigrants per 1000 of population, and obtained as follows:

$$\frac{\text{total net immigration}}{\text{mid-year population estimate}} \times 1000 = \text{net immigration rate}$$

The net immigration rate in 1976 was 4.75 per 1000 population or .47 per cent. This was calculated as follows:

$$\frac{110{,}000}{23{,}143{,}000} \times 1000 = 4.75$$

Population growth rate

A combination of the rate of natural increase and the net immigration rate. It is usually expressed as per cent per year in discussing human populations. In 1976, the population growth rate in Canada was 1.33 per cent (.86 +.47), compared to a world growth rate estimated at 1.8 per cent.

The population growth rate can also be derived as follows:

$$\frac{\text{total annual increase}}{\text{mid-year population estimate}} \times 100 = \text{population growth rate}$$

$$\frac{308{,}000}{23{,}143{,}000} \times 100 = 1.33\%$$

Doubling time

Length of time required for a population to double in size if a particular population growth rate is maintained. The principle governing rate of growth is the same as that used to calculate compound interest. For example, a population of 100 people growing at one per cent per year will double in 70, not 100, years.

The doubling time for any population can be calculated using the following equation:

$rt = 70$, where r = population growth rate
t = doubling time

Hence, the doubling time for Canada using 1976 data was 52.6 years $\left(\frac{70}{1.33}\right)$.

Using the equation given above, one can show that a population growing at a rate of

0.5 per cent per year doubles in 140 years;
1.0 per cent per year doubles in 70 years;
2.0 per cent per year doubles in 35 years;
3.0 per cent per year doubles in 23 years; and
3.5 per cent per year doubles in 20 years.

This calculation illustrates vividly the magnitude of the changes required to produce significant increases in doubling time. For example, Mexico, which was growing by 3.5 per cent in 1976, will see only an increase of three years in doubling time (20 to 23 years) if it is able to reduce its rate of growth by .5 per cent. Sweden, on the other hand, which was growing by 0.4 per cent in 1976, could reduce its growth by a mere .1 per cent to achieve an increase in its doubling time of 58 years (175 to 233 years).

Exponential growth

Population growth by a constant *percentage* of the whole in a given time period. A doubling time is the time it takes for a population which is experiencing exponential growth to double. Exponential growth can be illustrative of dramatic changes over short periods of time.

A familiar story, said to be Persian, offers a classic example. The story tells of a clever courtier who presented a beautiful chess set to his king and in return asked only that the king give one grain of rice for the first square on the chess board, two grains (or double

the amount) for the second square, four (doubling again) for the third, and so forth. The king, not being mathematically inclined, agreed, and ordered the rice brought forth. The eigth square required 128 grains, and the twelfth took more than one pound. Long before reaching the 64th square, the king's coffers were depleted. Even today the world's richest king could not produce enough rice to fill the final square. It would require more than 200 billion tons, or the equivalent of the total world production of rice for 653 years.

A population is said to be growing linearly if it increases by a constant absolute number in a given time period. Thomas Malthus used the concepts of linear and exponential growth to predict the future almost two centuries ago. Malthus stated that while population was growing exponentially, food supply was growing linearly, and that if man did not limit his numbers, nature would. Since that time, we have added three billion people to the planet, but as yet, Malthus has not been proved to be right.

Census metropolitan area

Canadian census metropolitan areas have been established for groups of urban communities in Canada which are in close economic, geographic, and social relationship. The criteria for inclusion as a C.M.A. are as follows:

(i) Municipalities completely or partially located in a continuous built-up area of 100,000+; and
(ii) Geographic units located within a 20-mile radius from the limit of the continuous build-up area where the percentage of primary labour force (excluding minors) is lower than the national average and where the population increase (1956-66) is equal to or higher than that of the metropolitan area; in case only one of the two criteria is met, the unit is included if it meets the accessibility criterion.

In 1971, 11.9 million people, or 55 per cent of the Canadian population, lived in the 22 C.M.A.'s.

Urban

The definition of "urban" in Canada is based on the following criteria:

(i) Population of incorporated cities, towns, villages with a population of 1,000+;
(ii) Unincorporated places of 1,000 having a population density of at least 1,000 people per square mile; and
(iii) Built-up fringes of (i) and (ii) having a minimum population of 1,000 and a density of at least 1,000 people per square mile.

Rural

Proportion of the Canadian population which is not classified as urban. In 1971, this amounted to 5.2 million people, or 24 per cent of the Canadian population.

Age structure

The age structure of a population shows the percentage of the population by age group (usually in five-year age classes), according to sex. In rapidly growing populations the population profile obtained is in the shape of a pyramid. In populations in which rapid growth has been followed by slow growth, it tends to be diamond-shaped. In non-growing populations, it is symmetrical in a beehive-like form.
The Canadian age structure is now represented by the transitional, or diamond, shape. As the post-war baby boom works its way through the age structure over the next 30 years, the proportional increase in number of people at and past retirement age will create major planning problems.

Dependency ratio

A crude measure of the relationship between various broad age groups in a population. Dependency ratios serve as age structure indicators, reflecting the potential economic burden on future social, medical, educational and other facilities. The ratio is calculated as follows:

$$\frac{\text{population 0-14 years} + \text{population 65+ years}}{\text{population 15-64 years}} = \text{dependency ratio}$$

This ratio is often referred to as the "total dependency ratio". Two other terms associated with the dependency ratio are

(i) Child dependency ratio: the number of children per one adult; and,
(ii) Aged dependency ratio: the number of aged persons per one adult.

Finally, a term sometimes used in discussing dependency ratios is the aged-to-child ratio. This is the number of aged persons per one child.

Household

A person or group of persons occupying one dwelling. Every person is a member of some household. (A dwelling is a structurally separate set of living quarters with a private entrance from outside or from a common hallway or stairway inside the building.)
The rate at which households are formed is called the *household formation* rate. It is often crucial in projecting future demand for such goods and services as housing and energy.

Family

A husband and wife (with or without children who have never been married, regardless of age) or a parent with one or more children never married, living in the same dwelling. The rate at which families are formed is called the *family formation* rate.

Cohort

A population group that enters on same stage of the life cycle simultaneously. For example, 1000 babies born in the same calendar year are a "birth cohort."

Linguistic composition (Official Languages)

Proportions of anglophone, francophone, and bilingual (French and English) groups in the population. "Anglophone" and "francophone" may be used to indicate either mother tongue or home language, i.e., someone whose mother tongue was (for example) English may have become assimilated into the francophone proportion of the population to the extent that the language spoken in his home is French.

Projection

A projection involves working out the numerical consequences of a set of assumptions. For example, several projections are often made at the same time by the same person, it being left to the reader to select the set of assumptions which appears to him the most realistic.

Forecast

A projection to which probability values have been assigned. For example, it might be stated that Canada's population in 2001 will be centered on the range of 28-32 million with a probability of 2 to 1.

Prediction

The assertion that something will almost certainly happen in the future. For example, it is known that the number of aged in Canada (65+) will almost double in the next 25 years, from 1.74 to 3.34 million. This is because they will be drawn from today's age group of 40+ years, a grouping which is already established in our society. (Immigration will not be a significant contributor to the aged by 2001, unless levels are exceptionally high.)

Target

A specific population goal chosen by a decision-maker. Once the target is chosen, the decision-maker will have to consider which means of achieving it will attract the broadest public acceptance.

Demographic transition

An historical shift of birth and death rates from high to low levels; the decline in mortality usually precedes the decline in fertility, thus resulting in rapid population growth during the transition period.

Stable population

A population whose rate of growth or decline is constant, and in which the birth rate, death rate, and age-sex structures are also constant. For example, a constant world population growth rate of 1.6 per cent would produce a stable world population.

Stationary population

A special case: a stable population which does not increase or decrease in size.

Zero population growth

A synonym for "stationary population". For the world, it is the time when the birth rate is equal to the death rate. For any region of the world, it occurs when births plus immigration equal deaths plus emigration.

IB (i)
Selected, Annotated Bibliography

This bibliography has been prepared to assist users of the Population Information Kit who wish to do further reading on aspects of population policy. The items have been selected to reflect the Canadian experience, although a few relevant American sources are cited. The emphasis throughout is on population policy; there is relatively little on demographic theory.
Opinions expressed in the annotations are those of the compiler, Christopher E. Taylor, of the Department of Geography, University of Toronto, and do not necessarily reflect the views of the Department of Manpower and Immigration.

Alternatives: Perspectives on Society and Environment 3, no. 3 (Spring 1974), 42 p.
(Special number — "World Population Year")
A special issue prepared for World Population Year. Contents include: Richard Burkart, "Canada's Role in World Population Year 1974", pp. 4-9; L. R. Marsden, "Canadian Population Policy Development: Recent Actions and Some Concerns", pp. 10-16; R. M. Tait, "Canadian Immigration and Population Study", pp. 17-18; Frank Kelly, "Population and Technology", pp. 19-20; Chris Taylor, "Population Projections and Growth: Proposals or Prophecies?", pp. 21-26; David Wood, "Regional Development and Population Policy in Ontario", pp. 27-31; and J. E. Veevers, "The Parenthood Prescription", pp. 32-37.

Auerbach, Lewis and Andrea Gerber. *Implications of the Changing Age Structure of the Canadian Population.* Ottawa: Department of Supply and Services, 1976. 125 p.
(Science Council of Canada. Perceptions 2)

. *Répercussions de l'évolution de la pyramide des âges au Canada.* Ottawa: Ministère des Approvisionnements et Services, 1976. 125 p.
(Conseil des sciences du Canada. Perceptions 2)
This study, the second in the Perceptions series, examines the impact of our changing age structure on medicine, housing, transportation, communications, education, and politics.

Barrett, F. Michael and Malcolm Fitz-Earle. "Should Canada Withhold Aid From Developing Countries Lacking Population Control?" *Science Forum* 6, no. 2 (April 1973), 3-6.
The authors recommend that our foreign aid budget be increased to approximately two per cent of the Canadian Gross National Product. In allocating this aid, however, only those countries that have developed or are developing programs designed to limit population growth should receive aid.

Barrett, F. Michael and Chris Taylor. *Population in Canada.* Toronto: Faculty of Education. University of Toronto, 1977. 75 p.
A manual for high school teachers of guidance and social science.

Beauregard, Ludger. "Le Québec et ses problèmes de population." *Canadian Geographer* 18, no. 1 (Spring 1974), 3-15.

Berelson, Bernard. *The Great Debate on Population Policy: An Instructive Entertainment.* New York: Population Council Occasional Papers, June 1975.
A review of differing philosophical viewpoints on world population problems.

. "Population Policy: Personal Notes." *Population Studies* 25, no. 2 (July 1971), 173-182.
"By population policy, I refer to governmental actions that are designed to alter population events or that actually do alter them." (p. 173) Berelson combines four demographic factors (size, rates of growth, distribution, and composition) to form behavioural categories (economic, political, ecological/environmental, and social). The result is a sixteen-fold matrix, in which Berelson identifies the problem area of population policy for each section. The final section of the article is devoted to ends, means and scientific process, and to the organization of decisions.

Bergman, Elihu. "American Population Policy Making: The Politics of Do Good But Don't Rock the Boat" *in* Richard L. Clinton and R. Kenneth Godwin, eds. *Research in the Politics of Population.* Toronto: D. C. Heath & Co., 1972. pp. 41-70.
According to Bergman, " . . . the issue of population growth has produced an identifiable pattern of activity within the system that qualifies as a policy process." (p. 47). He illustrates the process with two matrixes, one depicting the network of actors and resources involved, and the second reflecting a network of their relationships. "The process transpires in a consensual setting comprised of open channels of communication among the actors, easy access to one another, general agreement on objectives and methods, and a compact structure in which to operate." (p. 49).

. *What is Population Policy?* Papers presented at the South Asian Population Policy Seminar, Marga Institute, Sri Lanka Center for Development Studies, Colombo, February 1973. 12 p.
Using Revelle's definition, Bergman defines population policies as those " . . . related to changes in the quantity and quality of the population and its geographical distribution — in the numbers of human beings, then education and skills, and where and how they live relative to the space and resources available to each person . . . " (p. 3). This has led to two major types of policies: *population-responsive policies:* to overcome the effects of unprecedented increases in population size and density; and *population-influencing policies:* to bring about changes in the key population components (births, deaths, immigration and emigration).

Besecker, Janet and P. S. Elder. *A Framework for Evaluating Canadian Population Policy.* Paper presented at the seminar of the Population Research Foundation, Toronto, June 18, 1976, 30 p.
This paper outlines ethical perspectives and their implications for Canadian population policy.

Bonin, Bernard. "L'immigration étrangère au Québec." *Canadian Public Policy/Analyse de Politiques* 1, no. 3 (Summer — été 1975), 296-301.

Bourgeault, Guy. "Les politiques 'implicites' d'Ottawa en matière de population." *Relations,* no. 382 (mai 1973), 149-152.
The author thinks that Canada's working statement prepared for the U.N. prior to the World Population Conference is too statistical and unimaginative. This, he feels, accords with the U.N. approach, which is to make the World Population Conference a conference about numbers instead of people: "Malgré les apparences, les problèmes qui seront débattus dans le cadre de la Conférence de 1974 sur la croissance de la population ne sont pas d'ordre statistique et 'scientifique' d'abord, mais bien d'ordre éthique." (p. 152).

Bourne, L. S. *Frameworks for Locational Decision-Making in National Urban Strategies: A Review.* Toronto: Centre for Urban and Community Studies, University of Toronto, November 1974. 41 p.
(Research Paper 66)
"This paper forms part of the introduction to a major comparative study on national policies and strategies for regulating urban growth. It reviews some basic definitional constraints, outlines selected frameworks for comparing decision-making in different political systems, and summarizes some of the preconditions which will influence how the debate on urban growth policies evolves in different countries." (Preface)

Boyd, Monica, "Family Size Ideals of Canadians: A Methodological Note." *Canadian Review of Sociology and Anthropology/ La Revue canadienne de Sociologie et d'Anthropologie* 11, no. 4 (November 1974), 360-370.
Boyd compares three polls on ideal family size in Canada — 1957, 1960 and 1970. She concludes that the 1960 poll is suspect, and that the 1957 and 1970 polls are more consistent, if not more accurate, sources of data on Canadian attitudes to family size. Data from 1957, 1970, and from a March, 1974, poll all point to a decline in the ideal number of children considered desirable by Canadians.

Breton, Raymond, Jill Armstrong and Les Kennedy. *The Social Impact of Change in Population Size and Composition: Reactions to Patterns of Immigration.* Ottawa: Information Canada, 1974. 43 p. (Canada. Department of Manpower and Immigration. Canadian Immigration and Population Study.)

. *Les répercussions sociales des changements survenus dans la taille et la structure de la population; réactions devant l'immigration.* Ottawa, Information Canada, 1974. 43 p. (Canada. Ministère de la main-d'oeuvre et de l'Immigration. Etude sur l'immigration et les objectifs démographiques du Canada.)

Brown, George F. *Population Policy.* Paper presented at the Western Hemisphere Region of the IPPF Regional Council Meeting, May 6-9, 1972. 12 p.
The author defines a population policy as " . . . direct or indirect action by governments to alter population events." (p. 2) He states that government must first establish fundamental objectives and explore a number of means to achieve population policy goals. Some of these means are the implementation of universal voluntary family planning programs; the expansion of information and education; changes in social institutions; legal mechanisms; and economic mechanisms.

Buckley, H. and S. T. Nielsen. *Immigration and the Canadian Labour Market.* Ottawa: Strategic Planning and Research, Department of Manpower and Immigration, 1976. 75 p.
The study traces the impact of immigration movement on the Canadian labour market. A number of specific professions are used as examples.

Burke, C. D. and D. J. Ireland. *Holding the Line: A Strategy for Canada's Development.* Ottawa: Ministry of State for Urban Affairs, 1976. 49 p. plus tables. (Urban Prospects Series).

Cadbury, G. W. "A Population Policy? The Present Situation" in *A Population Policy for Canada?* Toronto: Conservation Council of Ontario; Family Planning Federation of Canada, 1973. pp. 1-4.
The author presents rather a broad definition of a population policy, whose purpose would be to foresee and forestall the problems that numbers of people may cause. He lists a number of reasons why Canada does not have a population policy, and suggests four stages for policy formulation in Canada: gather information; apply the information when formulating other policies; formulate a population policy; and implement it.

Canada. *Canadian Statement to the World Population Conference.* Presented at the UN World Population Conference, Bucharest, August 20, 1974. 7 p.

Canada. Committee on the Operation of the Abortion Law. *Report.* Ottawa: Department of Supply and Services, 1977. 474 p. (Chairman: Robin Badgley).

Canada. Department of Industry, Trade and Commerce. Office of the Special Advisor to the Deputy Minister. *Demographic Characteristics of the Canadian Population Related to An Industrial Strategy.* Ottawa: Unpublished monograph, July 1972. 44 p.
This is the first of a series of discussion papers prepared as background material for the development of Canadian industrial strategy. The paper examines and projects to the mid-1980's, those demographic characteristics of the Canadian population which appear to have a bearing on an industrial strategy. From a general demographic perspective, a four-stage strategy is prescribed: 1972-82 — employment creation; 1982-92 — moderately growing labour force; 1992-2007 — slow growth labour force; 2007 — almost no growth in labour force.

Canada. Department of Manpower and Immigration. *Canadian Immigration and Population Study.* Ottawa, Information Canada, 1974. 4 vols. (Green Paper on Immigration).
Vol. 1 — *Immigration Policy Perspectives.* 77 p.
This volume presents the thrust of the government's approach to a new immigration philosophy. The first chapter links population and immigration and makes the point that immigration policy must be part of a population policy.
Vol. 2 — *The Immigration Program.* 233 p.
This volume is a detailed analysis of the present working of the immigration program. It is divided into the following sections: the evolution of policy; selection of immigrants; recent immigration patterns; refugees; services to immigrants; controls and enforcement; and admission of non-immigrants for employment.
Vol. 3 — *Immigration and Population Statistics.* 111 p.
This volume presents important statistics which are referred to in other volumes. It is divided into nine sections: population growth and distribution; population projections to 2001; immigration — sources, distribution and admissions; immigrant selection; immigration and the labour market; language; emigration; controls and enforcement; and administration.
Vol. 4 — *Three Years in Canada; First Report of the Longitudinal Survey on the Economic and Social Adaptation of Immigrants.* 152 p.
This volume focuses on a three-year cohort of immigrants and traces its economic and social adaptation to Canadian culture. Results of this survey indicate that economic factors are paramount in the decision to immigrate to Canada. It is also shown that, at first, the nominated immigrant has much greater difficulty adapting to the economic system; but, given time, that most are able to adjust.

Canada. Ministère de la main-d'oeuvre et de l'Immigration. *Etude sur l'Immigration et les objectifs démographiques du Canada.* Ottawa: Information Canada, 1974. 4 tomes. (Le Livre vert sur l'immigration).
t.1 — *Perspectives de la politique d'immigration.* 85 p.
t.2 — *Le programme d'immigration.* 253 p.
t.3 — *Statistiques sur l'immigration et la population.* 111 p.

t.4 — *Trois ans de vie au Canada; Premier rapport de l'étude longitudinale sur l'adaptation économique et sociale des immigrants.* 161 p.

Canada. Department of Manpower and Immigration. *Canadian Immigration Policy.* Ottawa: Queen's Printer, 1966. 42 p. (White Paper on Immigration).
The government's 1966 White Paper, which preceded the change in regulations, took an expansionist viewpoint on Canada's future. "There is little dissent from the proposition that Canada still needs immigrants". (p. 5) According to the White Paper, Canada is an under-populated country by most standards of measurement. "Immigration has made a major contribution to the national objectives of maintaining a high rate of population and economic growth . . ." (p. 7)

Canada. Ministère de la main-d'oeuvre et de l'Immigration. *La politique d'immigration du Canada.* Ottawa: Imprimeur de la Reine, 1966. 45 p. (Le Livre blanc sur l'immigration).

Canadian Broadcasting Corporation. *The Attiitudes of Canadians to Certain Aspects of Canadian Growth: The Results of a National Survey — January 1971.* Research Department, CBC, 1971. 15 p (Research Report — Tor/71/2).
Although questions have been raised about methodology and about the types of questions asked, some of the interesting findings were: 55% would like to keep Canadian population at the present level, while 40% would like to see it increase; relatively few Canadians (16%) think that Canada has an over-population problem. Well over ⅓ (39%) think that Canada is under-populated and only 17% think that the Canadian population is growing too quickly; 45% think there are too many people in the world today, and 66% think the world's population is growing at too fast a rate.

Canadian Council for International Cooperation. *Report of the Canadian National Conference for World Population Year 1974.* Ottawa: Canadian Council for International Cooperation, May 10-11, 1974. 68 p.
This report presents major addresses. workshop reports, a list of delegates from Canadian non-governmental organizations sent to the World Population Tribune, and recommendations to Canadians and the Canadian government for a comprehensive population policy.

Canadian Council of Resource and Environment Ministers (CCREM). *Proceedings: 1973 Man and Resources Conference.* Montreal: CCREM, 1974. 88 p.
The proceedings contain recommendations on 12 environmental issues discussed by citizens at this conference. Population was treated in depth and a lengthy bibliography was provided.

Canadian Council of Resource and Environmental Ministers — Man and Resources Program. *Population — Report of the National Task Force.* Montreal: Man and Resources Program, 1973. 21 p.
Based on a two-year national program, this report takes an environmental perspective on the population issue in Canada. The report focuses on eight major issues: the myth of ZPG in Canada; natural increase: what about the perfect contraceptive?; immigration policy in Canada; the myth of wide open spaces; population distribution: the problem of urban concentration; Canada and the global situation; economic considerations; and legal jurisdiction: population growth.

Canadian Council on Social Development. *What Kind of Canada Do We Want? A Special Project on Population and Immigration Policies.* Ottawa: CCSD, October 1975. 124 p.

Canadian Institute of International Affairs. *Public Consultation on Population Questions: A Report to the Government of Canada.* Toronto: Canadian Institute of International Affairs, 1974. 74 p.
This report summarizes the results of public consultations conducted across Canada in March and April, 1974. The purpose was to seek the view of Canadian citizens on population, especially as it related to preparation for the World Population Conference. The panel's terms of reference were to listen, record, and report, but not to make recommendations. The panel identified three major perspectives: the ecosystem view, which took an environmental position and urged stabilization of population and resources consumption; the social justice view, which stated that wealth needed to be redistributed first; and the quality of life view, which presented an individual perspective to the problem.

Cartwright, Steven. *Population: Canada's Problem.* Toronto: Ryerson Press, 1941. 34 p.
This booklet provides an interesting perspective on how changes in fertility trends at certain points in time can affect a nation's outlook for the future. Because of a fairly low birthrate and declining immigration to Canada throughout the 1930's, many people concluded that there was no longer any prospect for a substantial population increase in Canada. The booklet examines the Canadian potential for growth in the area of "open spaces", industry, the economy, and immigration.

Casey, Rick. ed. *A Frustrated Consensus: Report on the Consultation on Population Policy.* Co-sponsored by the Canadian Inter-Church Project on Population and the Center of Concern, Washington, D.C., Montreal, Oct. 12-13, 1973 28 p.
The editor has attempted to summarize the presentation and the subsequent discussion periods. The consultation stressed a social-justice approach to the population problem.

Coleman, Alice. *Canadian Settlement and Environmental Planning.* Ottawa: Ministry of State for Urban Affairs, 1976. 64 p. (Urban Prospects Series).

Collishaw, Neil. *Fertility in Canada/La fécondité au Canada.* Ottawa: Statistics Canada, 1976. 69 p. (1971 Census of Canada, Vol. 5, part 1, bulletin 5.1 — 6. 99-706)
This study, based on the 1971 Census, includes a review of the major trends in fertility rates and an analysis of differential fertility in Canada by geographic, social, and economic differentials.

Cooperation Canada. Vol. 12. January — February 1974. (Special issue — "1974: World Population Year").
This issue contains the following articles:
"Population . . . a growing crisis" by D. Fieldman (pp. 5-8); "Family planning or birth control" by Domingos Davida (pp. 9-13), "Planned parenthood: a fundamental human right" by Jane Lommel (pp. 14-17); "Planned or unplanned growth" by A. Sauvy (pp. 18-22); "A major factor: who actually perceives the problem?" by Bernard M. Daly (pp. 23-27); "Family and population planning in Singapore" by Dr. Won Fook Kee (pp 28-30); and "India's experience in population planning" by Dr. K. N. Rao (pp. 31-37).

Corbet, Philip S. "Population and Resources: A Policy for Canada." *Science Forum* 4, no. 3 (June 1971), 25-26.
Dr. Corbet, president of the Entomological Society of Canada at that time, presented a motion endorsed by the society in August, 1970, which resolved, "That the Etomological Society of Canada, through its President, actively support and encourage the development of a national policy for the limitation of Canada's human population and the stabilization of that population at an acceptable level . . ."

Corbet, Philip S. and E. J. LeRoux. "The Population Problem: A Vital Canadian Policy Issue." *Science Forum* 5, no. 1 (February 1972), inside the front and back covers.
The authors submit a copy of a letter sent to the Prime Minister in the fall of 1971 signed by 23 biological scientists in Canada. The letter outlined the importance of having a national population policy in Canada, and confirmed their willingness to provide assistance to and support for the early development of a national policy on population limitation and resource use in Canada. The article also outlines the federal government's response to the letter.

Dales, John. "Protection, Immigration and Canadian Nationalism" *in* Peter Russell, ed. *Nationalism in Canada.* Toronto: McGraw-Hill, 1966. pp. 164-177.
"Large-scale immigration tends to be an alternative to the upgrading of the domestic labour force, and also tends to reduce the domestic renumeration for skills . . . ; on both counts immigration tends to reduce . . . the standard of living of the domestic labour force." (p. 173). To Dales, immigration has increased our national income, but has reduced our national per capita income.

Daly, Bernard M. "Population ou surpopulation? — perspective canadienne." *Relations* 34, no. 397 (October 1974), 284-286.

Davidson, George F. "Canada's Family Allowances in Retrospect". *Children* 4, no. 3 (1957), 83-88.
At the time this article was written, Dr. Davidson was Deputy Minister of Welfare in the Department of National Health and Welfare. According to Davidson, "Family allowances were looked upon as a way of maintaining consumer purchasing power in the uncertain postwar demobilization period". (p. 84) Davidson asserts that there is no direct relationship between the family allowance and fertility. (p. 86). This is based on the Canadian-U.S. comparison, which shows both birth rates rising at the same rate after the Second World War, despite the absence of a family allowance program in the United States.

Davis, Kingsley. "The Nature and Purpose of Population Policy" *in* Kingsley Davis and Frederick G. Styles, eds. *California's Twenty Million: Research Contribution to Population Policy.* Berkeley: Institute of Interational Studies, 1971. pp. 3-29.
Davis defines population policy as " . . . a deliberate attempt, through governmental or quasi-governmental measures, to change or maintain the rate of population growth." (p. 6). Regardless of type, all population policies have four common elements. He then looks at obstacles to deliberate population policies; what makes a population policy effective; sources of weakness in modern population policies; and the idea of a state population policy.

Denton, F. T. and B. G. Spencer. *Does Canada Face A Labour Shortage in the 1980's?* Hamilton: Department of Economics, McMaster University, 1976. 54 p. (Working Paper 76-12).
An examination of the implication of Canadian fertility declines on labour force growth in the 1980's. Definition and alternative solutions indicate the complexity of the issue.

Dobson, Wendy. "National Population Objectives are Slowly Taking Shape: Now We Need Policies." *Science Forum* 8, no. 6 (December 1975), 24-27.
Dobson outlines the nature of current demographic trends in Canada; desirable demographic objectives; options for achieving objectives; and specific mechanisms which will allow policy implementation.

Driver, Edwin O. *Essays on Population Policy.* Toronto: D. C. Heath & Co., 1972. See especially Chapter 2, "Population Policy? A Conceptual Framework", pp. 7-13.
In chapter two Driver outlines some empirically observed paths among demographic variables and properties of population. He also divides policy into four areas: the means of policy — direct measures by governments; the purpose or philosophy of policy; policy evaluation — the logical relationship between means and philosophy; and policy initiation and implementation — the total groups and processes which are involved in originating and administering policies.

Epstein, Larry. *Immigration and Inflation.* Ottawa: Information Canada, 1974. 32 p.
(Canada. Department of Manpower and Immigration. Canadian Immigration and Population Study).

. *L'immigration et l'inflation.* Ottawa: Information Canada, 1974. 32 p.
(Canada. Ministère de la main-d'oeuvre et de l'immigration. Etude sur l'Immigration et les objectifs démographiques du Canada)
Epstein's study complements the work of Parai and Star. The evidence suggests that recent immigration into Canada has probably had a marginal impact on price stability; these considerations should therefore play a relatively minor role in immigration deliberations.

George, M. V. *Population Growth in Canada/La croissance démographique au Canada.* Ottawa: Statistics Canada, 1976. 60 p. (1971 Census of Canada, Vol. 5, part 1, bulletin 5.1-1. 99-701).
This study is a description of the growth and distribution of Canada's population in terms of their components over time. Although the analysis covers both historical and recent trends, the emphasis is on recent trends, with special reference to the 1961-71 decade.

Grindstaff, Carl F., Craig L. Boydell and Paul C. Whitehead, comp. *Population Issues in Canada.* Toronto: Holt-Rinehart, 1971. 102. p.
This collection illustrates the way that some Canadians perceived Canadian population issues throughout the mid and late 1960's. About half of the text is devoted to family planning and abortion issues; the rest looks at mortality, immigration, and migration.

Grindstaff, Carl F. and G. Edwards Ebanks. "Male Sterilization as a Contraceptive Method in Canada: An Empirical Study." *Population Studies* 27, no. 3 (November 1973), 443-445.
This study is a preliminary venture in which an attempt was made to examine the socio-demographic and personality characteristics of two groups of men who underwent the procedure in London, Ont., between 1966 and 1969. In general, the statistics show that the first group of men were innovators and, as such, different from the general population. They predict that, as the operation continues to gain in popularity, those who choose it will become increasingly more like the general population in most respects. (p. 455).

Hare, F. Kenneth. *Does the Earth Have Limits?* Address delivered before the Conference, Dilemmas of Modern Man, Winnipeg, Manitoba, October 27, 1974. 17 p.
The author addresses the issue, ". . . that we are at this very moment in the grips of a world crisis, whose dimensions we

cannot exactly spell out, but which demands that we take immediate action."

Hare, F. Kenneth and C. K. Jackson. *Environment: A Geographical Perspective.* Ottawa: Ottawa Lands Directorate, Department of the Environment, 1972. 16 p.
This essay is divided into seven parts: the environmental crisis: its character; natural scientists and the environment; geography and the physical environment; shaping the perspective; "truth miscalled simplicity"; an example: Windsor-Quebec in perspective; and conclusion.

Hawkins, Freda. *Canada and Immigration: Public Policy and Public Concern.* Montreal: McGill-Queen's Press, 1972. 444 p
There is no better source than this text for a review of Canadian immigration policy from 1946 to 1971.

. "Immigration and Population: The Canadian Approach." *Canadian Public Policy/Analyse de Politiques* 1, no. 3 (Summer — été 1975) 285-295.

. *Immigration Policy and Management in Selected Countries: A Study of Immigration Policy and Management and Their Implications for Population Growth in the United States, Australia and Israel.* Ottawa: Information Canada, 1974. 61 p. (Canada. Department of Manpower and Immigration. Canadian Immigration and Population Study.).

. *Politique et administration en matière d'immigration dans certains pays: une étude de la politique et des programmes d'immigration des Etats-Unis, de l'Australie et d'Israël, et de leurs incidences sur l'accroissement de la population de ces pays.* Ottawa: Information Canada, 1974. 58 p. (Canada. Ministère de la main-d'oeuvre et de l'Immigration. Etude sur l'Immigration et les objectifs démographiques du Canada.).

Henripin, Jacques. *Immigration and Language Imbalance.* Ottawa: Information Canada, 1974. 41 p. (Canada. Department of Manpower and Immigration. Canadian Immigration and Population Study.).

. *L'immigration et le déséquilibre linguistique.* Ottawa: Information Canada, 1974. 44 p. (Canada. Ministère de la main-d'oeuvre et de l'Immigration. Etude sur l'Immigration et les objectifs démographiques du Canada.)
Since fertility patterns appear to be converging around a norm for almost all ethnic groups in Canada, immigration will be the determining factor in the language balance, both in Canada and especially Quebec. Making some assumptions about migration to Quebec, Henripin speculates that francophones will continue to lose their proportion of Canadian population size, unless specific policies attempt to redress the balance.

Some Ideas on a Population Policy for Canada. Unpublished paper presented at a seminar on population policy for Canada, Toronto, June 1972. 23 p.
This paper summarizes many of the views of some French Canadian demographers and population specialists about the need for a population policy in Canada. Among some of the major points Henripin makes are the following: Canada's problem is not one of size, but of population distribution and concentration; a growing population is more open to progress than a stationary population; developed countries may stabilize population without any explicit population policy; and society should lighten the burden of parents who bear children.

. *Trends and Factors of Fertility in Canada.* Ottawa, Statistics Canada, 1972. 421 p.

. *Tendances et facteurs de la fécondité au Canada.* Ottawa: Bureau fédéral de la statistique, 1968. 425 p.
Using figures based on the 1961 Census, Henripin conducts a thorough review of fertility trends in Canada. This work has become limited because of the older data base.

Henripin, Jacques and Hervé Gauthier. "Canada" *in* Bernard Berelson, ed. *Population Policy in Developed Countries.* Toronto: McGraw-Hill, 1974 pp. 403-426.
The authors stress two aspects of Canadian population which can be the objects of international policies: immigration, and the preservation of the French-speaking minority. More than half the report focuses on these issues; the rest examines health and welfare aspects of population policy, such as contraception and abortion services, family allowance and income tax exemptions, and the status of women. The report neglects to point out the importance of population for other major issues, such as urbanization, labour, and the environment.

Henripin, Jacques et Evelyne Lapierre-Adamcyk. *La fin de la revanche des berceaux: qu'en pensent les Québecoises?* Montréal: Les Presses de l'Université de Montréal, 1974. 164 p.

Henripin, Jacques et Jacques Légaré. *Evolution démographique du Québec et de ses régions, 1966-1986.* Québec: Presses de l'Université Laval, 1969.

Holmes, Jeffrey. "Demography Affects Employment, Promotion." *University Affairs/Affaires universitaires* 15, no. 3 (March — mars 1974), 2-3.
Mr. Holmes has shown how a rapidly growing faculty throughout the 1960's will begin to age throughout the 1980's and 1990's, creating a top-heavy age structure for faculty in Canadian universities. He asks four loaded questions: would a steady increase in the age of the faculty have an adverse effect on curricula, research and campus life?; would young faculty of high calibre continue to be attracted to universities given the difficulty of advancement?; would it be necessary to revise radically the current salary, promotion and term structures?; and how wide are the demographic variations throughout Canada? (p. 3).

Illing, Wolfgang M. *Candide Model 1.0: Labour Supply and Demographic Variables.* Ottawa: Information Canada, 1973. 23. p. (Candide Project Paper no. 9 — for the Interdepartmental Committee on Candide, Economic Council of Canada.).

Jenness, R. A. "Canadian Migration and Immigration Patterns and Government Policy." *International Migration Review* 8, no. 1 (Spring 1974), 5-22.

Kalbach, Warren E. "Demographic Concerns and the Control of Immigration." *Canadian Public Policy/Analyse de politiques* 1, no. 3 (Summer — été 1975) 302-310.

. *The Effect of Immigration on Population.* Ottawa: Information Canada, 1974. 93 p. (Canada. Department of Manpower and Immigration and Population Study.).

. *L'incidence de l'immigration sur la population.* Ottawa: Information Canada, 1974, 100 p.
(Canada. Ministère de la main-d'oeuvre et de l'immigration. Etude sur l'immigration et les objectifs démographiques du Canada.).

This monograph extends Kalbach's recent book *The Demographic Bases of Canada* by incorporating 1971 census data. An interesting section is Chapter 5, "Population Projections and their Implications", (pp. 74-85), in which Kalbach outlines results of recent government projections undertaken by the Canadian Immigration and Population Study. These projections

showed higher population sizes for Canada, since they used immigration assumptions on a relative value, not (as is usual) on absolute value.

Kalbach, Warren and Wayne W. McVey. *The Demographic Bases of Canadian Society.* Toronto: McGraw-Hill, 354 p.
This is an important source book for those seeking basic demographic information about Canadian society. Divided into 14 chapters, the topics covered range from components of growth in Canada, to ethnicity and race, to recent trends and the future. In terms of recent data, the book is limited. None of the 1971 census data is used, and a limited use of the 1966 census is made, but there is no better historical source.

Kantner, Andrew, Wendy Dobson and Harvé Gauthier. "Canada", *Country Profiles* series — a publication of the Population Council, September 1974. 12 p.
The profile provides a general introduction to the geographic and demographic characteristics of Canada. Major headings are: location and description; population; population growth and socio-economic trends; history of population concerns; population policies; indirect policies; family planning programs; contraceptive use; educational and scientific efforts; and foreign assistance.

Kaplan, Harold. *Controlling Urban Growth.* Ottawa: Ministry of State for Urban Affairs, 1972. 14 p. (Discussion Paper B. 72.20).

Kelly, Frank, ed. *Population Growth and Urban Problems.* Ottawa: Information Canada, 1975. 90 p. (Science Council of Canada. Perceptions 1).

. *Croissance démographique et problèmes urbains.* Ottawa: Information Canada, 1975. 91 p. (Conseil des sciences du Canada. Perceptions 1).
This document represents the first in a series completed with the assistance of a number of outside reviewers. It represents a "state of the art" summary, and is divided into four sections: our cities in perspective; analyses of urban problems; urban policies and programs; and roles for technology.

Kettle, John. *Hindsight on the Future.* Ottawa: Ministry of State for Urban Affairs, 1976. 60 p.
A scenario based on the expected development of Canadian population, resources, and technology during the next 25 years.

Keyfitz, Nathan. "Population Waves." *in* T.N.E. Greville, ed. *Population Dynamics; Proceedings.* New York: Academic Press, 1972. pp. 1-38.
Keyfitz examines the natural periodiciity of the demographic system created by the continuing forced response to economic and outside changes.
"Suppose that parents prevented from having children by economic difficulties become increasingly impatient for children as time goes on. Once prosperity is returned they may be somewhat old for childbearing on U.S. norms, but many of them nonetheless go ahead. The younger parents who come to the usual age of childbearing in this time of prosperity also have children, so the total births are above the trend line." (p. 19).

Kralt, John. *The Urban and Rural Composition of Canada's Population/La composition urbaine et rurale de la population du Canada.* Ottawa: Statistics Canada, 1976. 51 p. (1971 Census of Canada, Vol. 5, part 1, bulletin 5.1-2. 99-702).

Kubat, Daniel and David Thorton. *A Statistical Profile of Canadian Society.* Toronto: McGraw-Hill Ryerson Ltd. 1974. 200 p.
After an introduction to the population of Canada, the authors outline, in detail, three demographic processes in Canada (fertility, mortality, and migration) and three social institutions (households and families, employment, and education).

Lachapelle, Réjean. "La fécondité au Québec et en Ontario: quelques éléments de comparaison." *Canadian Studies in Population* 1 (1974), 13-28.

Lapierre-Adamcyk, Evelyne et Nicole Marcil-Gratton. "La contraception au Québec." *Canadian Studies in Population* 2 (1975), 23-51.

LeRoux, E. J. "A National Population Policy for Canada." *Bulletin of the Entomological Society of Canada* 5, no. 3 (1973), 80-84.
LeRoux makes the case for planned growth based on a sound population policy for Canada. "Since continued growth is not a solution to the Canadian population problem, our national objective must be to reduce the rate of growth and size of Canada's human population and stabilize it at a level that can be sustained." (p. 82) He then calls for a population policy in Canada and identifies possible stumbling blocks to implementation.

Lithwick, N. Harvey. *Urban Canada: Problems and Prospects.* Ottawa: Central Mortgage and Housing Corporation, 1970. 236 p.

. *Le Canada urbain: ses problèmes et ses perspectives.* Ottawa: Société centrale d'hypothèques et de logement, 1970. 262 p.

Livi-Bacci, Massimo. "Population Policy in Western Europe." *Population Studies* 28, no. 2 (July 1974), 191-204.
The author finds three major groupings of countries in Western Europe: in the first, including the U. K., the Netherlands, and the Scandinavian countries, liberation and extension of individual rights have gone a long way; a second group, which includes Spain, Portugal, and Ireland, has very few individual rights in the field of procreation; and the remaining European countries contain measures which both limit and support individual rights to contraception and abortion.
The author concludes that most West European countries' population policies are disorganized and do not support a set of national objectives.

Lloyd, Cynthia B. "An Economic Analysis of the Impact of Government on Fertility: Some Examples from the Developed Countries." *Public Policy* XXII, no. 4 (Fall 1974), 489-512.
Based on her Ph.D. research, Lloyd presents an excellent up-to-date article. In a detailed analysis of the likely effects of child subsidies on fertility, she concludes that the extent of family planning will be an important determinant of the impact of child subsidies (p. 496). If family planning has been perfect, and desired and actual family sizes coincide, child subsidies will have a direct impact on actual fertility through an increase in desired family size. Empirically, however, Lloyd found that ". . . relatively low birth rates were more likely to be the cause of than the result of relatively generous child subsidies . . ." (p. 498).

Lowi, Theodore J. "Population Policies and the American Political System" *in* Richard L. Clinton, William S. Flash and R. Kenneth Godwin, eds. *Political Science in Population Studies.* Lexington, Mass.: D. C. Heath and Co., 1972. pp. 25-53.
To the author, "population *Policy* usually signifies a broadly stated sentiment that, at best, encourages serious consideration of specific proposals for population policies." (p. 27) Lowi divides his article into the following sections: what is popula-

tion policy?; a scheme of analysis; population policies and their politics; and policy impacts as criteria for policy choice.

Macura, Milos. "Population Policies in Socialist Countries of Europe." *Population Studies* 28, no. 3 (November 1974), 369-379.
Most Eastern European countries, unlike those of Western Europe, support policies to maintain an increased population size. The author found that except for demographic projections, no prominent place was given to criteria or objectives relating to the growth and size of the population. Development plans and policy documents do not seem to have put forward specific targets for future population size. The age structure of the population has, however, received much attention, particularly in connection with medium and long-range estimates of future labour supply (p. 370).

Manning, Glenn H. and H. Rue Grinell. *Forest Resources and Utilization in Canada to the Year 2000.* Ottawa: Canadian Forestry Service, Department of the Environment, 1971. 53 p. (Publication No. 1304).
The authors present explicit projections for the demand and supply of timber in Canada to 2000. In calculating domestic demand, the basic assumption is that, other than the trends given, all other relationships will remain constant. One basic assumption concerns population: adapting Brown's projections for the Royal Commission on Health Services (1964), it is assumed that Canada's population will approximately double by the year 2000 to 37.5 million (p. 7).

Marsden, Lorna R. "Canadian Population Policy Development: Recent Action and Some Concerns." *Alternatives* 3, no. 3 (Spring 1974), 10-16.
Marsden summarizes some of the positions taken by interest groups on a Canadian population policy. A summary of the major points on population recommended at the November, 1973, Man and Resources Conference in Toronto is presented, and leads Marsden to conclude that "Such a consensus from such a heterogenous group of representatives must be seen as a statement of considerable importance". (p. 11) A population policy model, derived by Edwin Driver, is presented to illustrate the complexity of the issue.

. "Is Canada Becoming Overpopulated?" *Canadian Geographical Journal* 89, no. 5 (November 1974), 40-47.
The author provides an overview of population problems in Canada. She states that the reason Canada does not have a population policy is that in the main components of population (births, deaths, immigration, emigration, internal migration, age distribution)." . . . we appear to be untroubled, and by world standards we are". (p. 41).
She goes on to survey the causes of population growth and potential problems. Population projections and immigration growth patterns are examined, with the author concluding that ". . . the problems facing the nation in the area of population seem to me to centre on general ignorance . . . of the major trends, of what these imply for the future of society, and of what can be done to intervene in the process . . . " (p. 46).

. *Population Probe: Canada.* Toronto: Copp Clark, 1972. 179 p.
Marsden's book was the first of this decade which attempted to outline the need for a Canadian population policy; an important book for those beginning to explore the field. It deals with the need for a comprehensive population policy; Canadian law and population policy; attitudes of Canadians to population growth and family planning; how to understand the figures; ramifications of a comprehensive policy; and the field of positive action.

Marson, Wendy K. and G. F. Brown. "Considerations of a Population Policy for Canada" in *A Population Policy for Canada?* Toronto: Conservation Council of Ontario; Family Planning Federation of Canada, 1973, pp. 36-43.
The authors define population policy as ". . . . a set of measures which governments may introduce to alter such population characteristics as growth, distribution, structure, and composition." (p. 36). To them, there are three important considerations in formulating population policy: consequences of present trends; comparison of desired trends; development of measures to influence future desired directions (pp. 36-37).
The rest of the article examines a number of main elements in a Canadian population policy.

Moldofsky, Naomi. "Language — A Passport to Successful Immigrant Adjustment? The Quebec Experience." *International Migration* X, no. 3 (1972), 131-139.

Nash, A. E. Keir. "Demographology in U.S. Population Politics" *in* R. L. Clinton and R. K. Godwin, eds. *Research in the Politics of Population.* Toronto: D. C. Heath & Co., 1972. pp. 71-94.
Unlike Bergman, Nash is more concerned with ends: with the goal of "right population-policy making". To evaluate whether the substantive inputs, the information, and advice which are fed into the policy process is adequate, Nash examines some of the writings of the U.S. population establishment. He concludes that the establishment network of population journals and experts tends to provide a "conservative policy output" on several major issues.

National Conference on Immigration Policy, University of Toronto, 1975. *Immigration 1975-2001: Report of the National Conference on Immigration Policy May 22-24, 1975/rapport du Colloque national sur la politique d'immigration 22-24 mai, 1975.* Toronto: Canadian Association for Adult Education, 1975. 41 p. and 44 p.
This report emanated from a three-day workshop conducted in Toronto on May 22-24, 1975. Among the other items which the workshop addressed were immigration and population growth, the labour market, multiculturalism, and linguistic balance.

Norland, Joseph A. *The Age-Sex Structure of Canada's Population/La structure par âge et par sexe de la population du Canada.* Ottawa: Statistics Canada, 1976. 97 p.
(1971 Census of Canada, Vol. 5, part 1, bulletin 5.1-3. 99-703).

Ohlin, Goran. *Is Population A Policy Variable?* Paper presented at the annual meeting of the Population Association of America, New York, April 1974. 15 p.
Ohlin attacks the strong position taken by some that population policy should aim at significant reductions of population growth. He seriously questions whether population policy can be viewed as an independent variable. He also calls for a "policy for population", which would ". . . indulge less in speculations about population as a policy variable and worry a bit more about population growth as a relatively-firm given from which long-term planning has to start and ought to do so immediately." (p. 14).

Ontario Naturalist 17, no. 1 (March 1977).
(Special number — "Population")
Contents:
D. A. Chant, "Toward An Environmental Ethic" (pp. 4-13); Chris Taylor, "Population: A Question of Balance" (pp. 16-23); Philip S. Corbet, "Population: A Biological Approach" (pp. 26-30); F. Kenneth Hare, "Resources: Will There Be Enough?" (pp. 31-35); Spencer Star, "Thirty Million Canadians: Their

Economic Impact (pp. 36-41); Lorna R. Marsden, "Do People Count?" (pp. 42-47).

Parai, Louis. *The Economic Impact of Immigration.* Ottawa: Information Canada, 1974. 118 p. (Canada. Department of Manpower and Immigration. Canadian Immigration and Population Study.)

. *L'incidence économique de l'immigration.* Ottawa: Information Canada, 1974. 128 p.
(Canada. Ministère de la main-d'oeuvre et de l'immigration. Etude sur l'immigration et les objectifs démographiques du Canada).
Parai's study supports the general thesis that "... in most instances the economic effects of the post-war immigration into Canada have not been immense". (p. 3) In two rather detailed sections, the author outlines the economic analysis of immigration (pp. 16-33) and the economic impact of post-war immigration into Canada (pp. 41-79). According to the author, "within an economic framework immigration is not a goal, but rather a possible means of pursuing those economic objectives which are generally accepted within our society". (p. 5)

Pool, D. Ian. *Towards A Population Policy: A Framework for Discussion.* Unpublished paper presented at a seminar on a population policy for Canada, June, 1972. 35 p.
Pool outlines his POET framework (Population, Organization, Environment and Technology). He then lists eight criteria for the evaluation of population policies, and concludes with an examination of policy development, legislation, and implementation in Canada.

Pool, D. Ian and M. D. Bracher. "Aspects of Family Formation in Canada." *Canadian Review of Sociology and Anthropology/ La Revue canadienne de Sociologie et d'Anthropologie* 11, no. 4 (1974), 308-323.
The authors show that timing and spacing of births have changed radically since 1965, and that family size has declined, and is likely to remain relatively lower than in most former decades. They are, however, only able to pose as a question the key issue for future fertility in Canada: "... do the observed patterns of timing and spacing represent averting or merely delaying of births?" (p. 321).

Pool, Janet E., Loraine D. Marrett and John M. Last. *A Survey of Female Health and Reproductive Behaviour in Ottawa.* Paper presented at the annual meeting of the Canadian Association of Teachers of Social and Preventative Medicine, Calgary, May 30, 1973. 23 p.
Four major preliminary findings were reported: the majority of women interviewed approve of and utilize some method of birth control; the pill is the most widely used method, but many women were concerned about its possible long-term effects; a growing number of couples are trying sterilization; and most married women receive their family planning advice from private physicians (p. 11).

Préfontaine, Norbert. "What I Think I See: Reflections on the Foundations of Social Policy." *Canadian Public Administration/ Administration publique du Canada* 16, no. 2 (Summer — été 1973), 298-306.
The article is divided into three sections: identifying some of the concepts which have governed the formulation and practice of social policy in North America; raising the question of whether a social policy based on these traditional perceptions is likely to be effective in the future; highlighting of the nature of the challenge which rapid changes in our society are presenting to the human sciences.

Pross, A. Paul, ed. *Pressure Group Behaviour in Canadian Politics.* Toronto: McGraw-Hill Ryerson, 1975. 196 p.
As Pross points out, there are few studies of Canadian pressure groups. Less than a dozen articles (and until recently, only one book) were addressed to the study. This book, through a number of case studies, examines the impact of Canadian pressure groups in the field of environment, the mining industry, foreign aid, labour, and students.
In an introductory article Pross looks at the systematic roots of pressure group behaviour, and creates a pressure group typology. Peter Aucoin concludes the book by examining "pressure groups and recent changes in the policy-making process."

Québec. Bureau de la statistique. Direction de l'analyse et de l'information statistiques. Service de la démographie et du recensement. Série: *Analyse et prévision démographiques.* Québec: Bureau de la statistique, 1976.
Liste des volumes:

1. *L'évolution de la population québécoise: tendances passées et perspectives d'avenir*
2. *Perspectives démographiques pour le Québec: Quatre hypothèses, 1973-1986-2001*
3. *Scénarios démographiques pour demain: seize profils d'évolution de la population québécoise, 1973-1986-2001*
4. *Tendances passées et perspectives d'évolution de la fécondité au Québec*
5. *Tendances passées et perspectives d'évolution des échanges migratoires du Québec avec l'extérieur*
6. *Tendances passées et perspectives d'évolution de la mortalité au Québec*
7. *Perspectives démographiques pour les régions administratives et les grands périmètres urbains du Québec, 1971-1981-1986 (Résultats détaillés)*

Québec. Ministère de l'Immigration. *L'immigration au Québec.* Bulletin statistique annuel. Vol. 3, 1975.

Ray, D. Michael and Paul Villeneuve. *Population Growth and Distribution in Canada: Problems, Process and Policies.* Unpublished monograph, Ottawa, Feb. 1974. 64 p.
The paper treats the issue of urban population growth; the forces of growth; the dimension of regionalism; population growth and urbanization in Canada; the Montreal region case study; the other components of growth; and policy conclusions. The authors offer three main policy conclusions: "... national policy levers to control economic and population growth should apply to all regions but be adapted regionally since the dimensions differ in strength in each region ..." (p. 50); "... population growth and redistribution is not a goal or an end in itself, but a means, albeit an important one, to reach the fundamental goals of efficiency, equity, environmental quality and quality of life." (p. 50); and "... any realistic policy of redistribution must focus on metropolitan areas, with redistribution properly seen as an instrument rather than a goal." (p. 51).

Regier, Henry and J. B. Falls, eds, *Exploding Humanity: The Crisis of Numbers.* Toronto: Anansi, 1970. 188 p.
This book is the result of a teach-in at the University of Toronto Campus in the fall of 1968. It represents a pioneer effort in Canada to attempt to focus public concern on population issues.

Richmond, Anthony H. *Aspects of the Absorption and Adaptation of Immigrants.* Ottawa: Information Canada, 1974. 51 p.
(Canada. Department of Manpower and Immigration. Canadian Immigration and Population Study.)

. *Certains aspects de l'intégration et de l'adaptation des immigrants.* Ottawa: Information Canada, 1974. 53 p.
(Canada. Ministère de la main-d'oeuvre et de l'immigration. Etude sur l'immigration et les objectifs démographiques du Canada.)
The study covers situational factors in Canada; length of residence and process of adaptation; pre-migration characteristics of immigrants; citizenship and commitment to Canada; modes of immigrant adaptation to Canada; and summary and conclusion.
"Between 1946 and 1971, more than 3½ million immigrants entered Canada. At the time of the 1971 Census, 2.3 million were still residents here. Allowing for death rates, this means that a little under one in three either returned home or moved on to a third country." (p. 1) "A successful immigration policy for Canada in the next few years should recognize that not all immigrants intend to settle permanently." (p. 2).

. "Immigration and Pluralism in Canada." *International Migration Review* IV, no. 1 (Fall 1969), 5-24.

Romaniuc, Dr. A. *Potentials for Population Growth in Canada: A Long Term Projection.* Paper presented at the seminar on A Population Policy for Canada, Toronto, May 1973. 27 p.
Romaniuc's work preceded the 1974 projections of Statistics Canada, yet presents an interesting indication of how the demographer makes assumptions upon which projections are based. Romaniuc begins by identifying different types of projections, and by outlining the purposes of long-term projections. He then presents a set of mortality, fertility, and migration assumptions, which are followed by the results of his projections.

St. John-Jones, L. W. "Canadian Immigration: Policy and Trends in the 1960's." *International Migration* XI, no. 4 (1973), 141-170.

. "The Exchange of Population Between the United States of America and Canada in the 1960's." *International Migration* XI, no. 1 (2) (1973), 32-51.

Schwenger, Cape W. "Abortion in Canada as a Public Health Problem and as a Community Health Measure." *Canadian Journal of Public Health* 64 (May-June 1973), 223-230.
The author traces the effect of the amending of the Criminal Code (1969) on therapeutic abortions, a large proportion of which has, he concludes, replaced illegal abortions, with a consequent decrease in maternal mortality and morbidity.

Science Council of Canada. *Annual Report 1970-71.* Ottawa: Information Canada, 1971. See especially the Annual Report of the Chairman, "Population and Policies for the Future", pp. 31-35.
The Chairman, Dr. O. M. Solandt, outlines his concern about the need for a population policy in Canada.

. *Notes from a Seminar on Demography and Technology.* Ottawa, January 1974. 20 p.
(Science Council of Canada. Study on Population and Technology. Reference Paper 1)
A group of demographers and social scientists were gathered together to discuss three major issues: natural increase in population; aging of the Canadian population; and immigration. The report provides an interesting insight into the perceptions of these academics.

. *Population Data Base and Projection for Canada.* Ottawa, May 1974. 31 p.
(Science Council of Canada. Study on Population and Technology. Reference Paper 2)
The aim of this compilation is to provide an outline of the structural components of Canada's population, and the components of change. It is comprised of information on the basic structure of the population (growth components, internal distribution and age structure); and a number of projections of population trends.

. *Population, Technology and Resources.* Ottawa: Department of Supply and Services, July 1976. 91 p.

. *Démographie, technologie et richesses naturelles.* Ottawa: Ministère des Approvisionnements et Services, juillet 1976. 93 p.
Based to a large extent on environmental considerations, the Council argues for reduced population growth to Canada with more frugal land use and less waste in energy and food consumption.

Shaw, R. Paul, E. Kliever and Christine Guild. "Aspects of Canadian Immigration: 1951-71." *International Migration* XI, no. 3 (1973), 118-137.

Silcox, C. E. *The Revenge of the Cradles.* Toronto: The Ryerson Press, 1945. 27 p.
The Family Allowances Act created an intensive debate among French and English intellectuals as to its real intent. Many English Canadians believed that it was the aim of the government to continue propping up high fertility rates in Quebec. The author indicates this in the following quotation:
"So, if the Family Allowances Act is implemented, Dominion funds, largely derived from non-French sources . . . will be used to push even higher the fertility of French Canadian women. And that, presumably, was what was intended when the Act was passed. This fact alone will only deepen the disunity which already threatens to break Canada asunder..." (p. 21).

Spengler, J. J. *Stationary Population: Economic and Educational Implications.* Paper presented at the Conference on Population and Related Futures, Toronto. Ontario Institute for Studies in Education, November 1974. 32 p.
Spengler projects the paths by which a stationary population can be achieved, the impact of such a population on labour force, education, and welfare, and the prospects for adapting society to a future stationary population.

Star, Spencer. "In Search of a Rational Immigration Policy." *Canadian Public Policy/Analyse de Politiques* 1, no. 3 (Summer — été 1975), 328-342.

. *The Unimportance of Returns to Scale for Canadian Growth.* Vancouver, B.C.: Department of Economics, University of British Columbia, 1974. 25 p.
(Discussion Paper no. 74-24)

. *Le rôle peu important des rendements d'échelle par rapport à la croissance canadienne.* Vancouver, C.B.: Département d'économique, Université de la Colombie-Britannique, 1974. 32 p. (Document de travail no. 74-24)
In a special study conducted for the Green Paper on Immigration, Star examined whether a smaller population of 28 million, by 2001, would have any difference for returns to scale in Canada compared to a larger population of 34 million. Star concludes that ". . . a relatively low population growth rate will not have any measurable costs in terms of foregone economies of scale. Similarly, there is no reason to expect a relatively high population growth rate to confer any measurable benefits through realized economies of scale." (p. 11).

Statistics Canada. Census Field. Population Estimates and Projections Division. *Population Projections for Canada and the Provinces: 1972-2001/Projections démographiques pour le Canada et les Provinces: 1972-2001.* Ottawa: Information Canada, 1974. 181 p.
This is the most comprehensive and recent set of population projections to be published by the federal government. The first third of the book focuses on methodology and assumptions, the second third on projection results, and the final third on detailed projection tables.

. *Technical Report on Population Projections for Canada and the Provinces: 1972-2001/Rapport technique sur les projections démographiques pour le Canada et les Provinces: 1972-2001.* Ottawa: Information Canada, 1975. 233 p.
(Statistics Canada 91-516)
This publication brings together the background studies that formed the basis for the 1974 Statistics Canada population projections.

. *Household and Family Projections for Canada and the Provinces to 2001/Projections des ménages et des familles pour le Canada et les Provinces jusqu'en 2001.* Ottawa: Information Canada, 1975. 237 p.
(Statistics Canada 91-517)
This report contains the analysis of past trends in household and family growth, the formulation of projection hypotheses, the full description of the methodology adopted, and the detailed tables of projection results.

. Office of the Senior Advisor on Integration. *Perspective Canada: A Compendium of Social Statistics,* Ottawa: Information Canada, 1974. 321 p.
(Statistics Canada 11-507)

Statistique Canada. Bureau du conseiller supérieur en intégration. *Perspectives Canada: Recueil de statistiques sociales.* Ottawa: Information Canada, 1974. 331 p.
(Statistiques Canada 11-507f)
Divided into 14 chapters, this compendium illustrates how statistics can be used to promote understanding of major social events. Chapter I, "Population Growth, Distribution and Composition" (pp. 1-14) presents recent data based on the 1971 Census. Other important chapters containing data related to demographic policy are, Chapter 2, "Family Formation and Composition", (pp. 15-24), and Chapter 13, "Cultural Diversity" (pp. 255-284).

Stone, Leroy O. *Canadian Immigration Policy Issues in the Context of Population Growth Prospects.* Revision of an invited paper prepared for a Seminar on Future Immigration Policy, Toronto, February 8, 1974. 19 p.
This is an excellent paper outlining some crucial issues. " . . . the selection of a target, such as a population-size target, is only one aspect of the policy problem. How we get to it and how fast we attain it are matters of considerable import to the future of Canada". (p. 2) Major sections of the paper are pattern of growth and components: historical review; future population growth prospects; pattern and impact of international migration; and policy issues in future population prospects.
In part four, Stone identifies three major issues. These are immigration as a component of growth, management of the level and geographic concentration of immigrants, and management of the socio-economic composition of immigrants.

. *Illustrative Projections for the Population of Canada 1971-1991: Compilation and Adjustment of Existing Data.* Monograph prepared for the Institute for Research on Public Policy, 1976. 73 p. (Project No. 760.2)

Stone, Leroy O. and Susan Fletcher. *Migration in Canada/Les migrations au Canada.* Ottawa: Statistics Canada, 1977. 67 p.
(1971 Census of Canada, Vol. 5, part 1, bulletin 5.1-5. 99-705)

Stone, Leroy O. and Claude Marceau. *Canadian Population Trends and Public Policy through the 1980's.* Montreal: McGill-Queen's University Press, 1977. 109 p.
A policy study divided into 4 parts: relating population trends to public policy issues; future Canadian population trends; public policy issues and population trends; and government population policies.

Stone, Leroy O. and Andrew Siggner. *Demographic Research Priorities Related to the Field of Population Distribution Policy.* Ottawa: Ministry of State for Urban Affairs, April 1974. 53 p.
(Discussion Paper B. 74.6)
This paper is divided into four major areas: purpose; some major classes of distribution policy issues; related control questions of knowledge; and demographic research priorities. The last section contains an excellent series of charts which relate research problems to relevant issues of knowledge, priority rating, and the adequacy of knowledge for policy purposes. (see pp. 44-49).

. *The Population of Canada: A Review of the Recent Pattern and Trends.* One of a series of national monographs commissioned by the United Nations Committee for International Coordination of National Research in Demography for World Population Year, 1974. Ottawa: 1974. 126 p.
The monograph includes population growth — M. V. George (pp. 1-8); components of growth: mortality, fertility and migration — M. V. George (pp. 9-30); population composition — J. Norland, A. Siggner, and S. T. Wargon (pp. 31-68); regional population growth and distribution — M. V. George (pp. 69-89); the labour force — K. S. Gnanaskaran (pp. 90-108); and illustrative population projections for Canada, 1971-2001 — A. Romaniuc (pp. 109-112).

Taylor, Chris. *Population Projections and Growth: Proposals or Prophecies?* Report prepared for the National Task Force on Population, Canadian Council of Resources and Environment Ministers, May 1973. 26 p.
This report traces the historical use of population projections in Canada since the mid-1930's. It places emphasis on the assumptions made behind the population projections, and explains why few projections have been achieved. A final section examines recent population projections used in Canada and their inadequacies, and concludes with a call for more policy-directing instead of policy-responding planning.

Tienharra, Nancy. *Canadian Views on Immigration and Population: An Analysis of Post-war Gallup Polls.* Ottawa: Information Canada, 1974. 102 p. (Canada. Department of Manpower and Immigration. Canadian Immigration and Population Study.)

. *Vues des Canadiens sur l'immigration et les objectifs démographiques; analyse des sondages Gallup d'après-guerre.* Ottawa: Information Canada, 1974. 105 p.
(Canada. Ministère de la main-d'oeuvre et de l'immigration. Etude sur l'immigration et les objectifs démographiques du Canada.)
This extensive survey presents an analysis of changing Canadian attitudes towards immigration and population. Since 1946 to 1973, Canadians have come to think that the nation's population size is about right. This is combined with attitudes

towards immigration which were expansionist after World War II, but which have been more and more restrictionist over the last 15 years.

Vadakin, James C., *Family Allowances.* Washington: McGregor and Werner Inc., 1958. See especially Chapter 3, "The Canadian Program", pp. 47-90, and Chapter 4, "Demographic Considerations", pp. 91-121.
Chapter 3 provides a history of family allowances in Canada, including the major arguments against having them in Canada. Vadakin states that on the basis of Canadian experience, family allowances have had no significant effect on the birth rate.
Chapter 4 examines various countries' responses to their perceived population problems, and states that although family allowances have been quite ineffective in increasing the birth rate, under certain circumstances they may be justifiable.

Veevers, J. E. "The Parenthood Prescription." *Alternatives* 3, no. 3 (Spring 1974), 32-37.
Using recent Canadian data, Veevers examines the trend towards childlessness in Canada. The article is divided into the following sections: trends in childlessness; childlessness and population policy; childlessness and personal adjustment; and antidotes to the parenthood prescription.

Ware, Helen. *Ideal Family Size.* International Statistical Institute, October 1974. 28 p.
(World Fertility Survey — Occasional Paper No. 13)
Ware examines world-wide surveys on ideal family size, and outlines some of their methodological and philosophical failings. In concluding her article she states: " . . researchers should be aware that a translation of "best" raises fewer extraneous issues than that of "ideal"; that respondents who originally give non-numerical responses to the question should be probed to give a numerical response; and that some measure of the intensity of expressed attitudes should also be obtained." (p. 15)

Willard, Joseph W. "Some Aspects of Family Allowances and Income Redistribution in Canada." *Public Policy* 5, part 4 (1954), 190-232. Willard's appraisal offers some interesting insights into the impact of family allowances on the economy. It is divided into the following parts: some welfare considerations; family allowances and war finance; family allowances and fiscal policy; family allowances and labour economics; the Canadian family allowance program; some income redistribution benefits; and some demographic considerations.

Wynn, Margaret. *Family Policy.* London: Michael Joseph Publishers, 1970. 355 p. See especially the epilogue, "Does Help to Families Affect the Birth-rate?", pp. 275-295.
"Any hard evidence that taxation on children's allowances really affect birth-rates is lacking". (p. 278)
Other factors appear to be more crucial in affecting birth rate: education, employment, and income. The author suggests that even if it could be shown that family allowances did affect birth rates, other measures should be used to correct the balance.

"Zero Population Growth: Canada." *Economic Review.* March 13, 1974. 23 p.
(A Publication of the Economic Department, Dominion Securities Corporation Harris.)
The economic implications of continued low fertility and a changing age structure in Canada are examined. Key areas described are economic growth, incomes, urbanization, energy, inflation, capital requirements, and the Canadian dollar. In light of these implications for economic growth, several conclusions regarding policy for economic management are suggested.

I B (ii)
Films and Other Audio-Visual Aids

Note: All films are 16 mm.

SHORT FILMS (3 to 20 minutes)

1. *Boomsville.*

   11 min., 1969, colour. Advanced elementary to college.
   Depicts the development of North America from wilderness to industrialized society. In the end, humankind reaches another planet and starts the process again.
   Distributor: National Film Board
   1 Lombard Street
   Toronto, Ontario
   Price: Purchase: $115.00
   Rental: free

2. *Ecology Primer.*
   18 min., 1972, colour. Junior high to college.
   Dennis Weaver discusses pollution, animal extinction, and population growth with a group of young people. Film offers advice on constructive actions which students may undertake.
   Distributor: Bellevue Film Distributors
   277 Victoria Street
   Toronto, Ontario
   Price: Purchase: $275.00
   Rental: 25.00

3. *Population Ecology.*

   19 min., 1964, colour. Junior high to college.
   While an "old" film, it beautifully explains the population dynamics of various organisms and portrays the fluctuation and limitation of population sizes as environments change. Discusses the human population growth curve and concludes that we, too, are governed by natural laws.
   Distributor: Visual Education Centre
   115 Berkeley Street
   Toronto, Ontario
   M5A 2W8
   Price: Purchase: $280.00
   Rental: 28.00

4. *Tomorrow's Children.*

   17 min., 1971, colour. Junior high to college.
   Calls for our responding to the physical and psychological needs of future children through reducing per capita consumption and population growth rates. Contains pictures of various family planning devices.
   Distributor: Viking Films
   525 Denison Street
   Markham, Ontario
   L3R 1B8
   Price: Purchase: $270.00
   Rental: 30.00

FILMS OF MEDIUM LENGTH (21 to 40 minutes)

1 *Alone in the Midst of the Land.*

   27 min., 1970, colour. High school to college.
   We observe the lone survivor of deadly world-wide pollution. Wearing a protective suit, he views a film made in 1970 warning of disasters to come. The message is that we are risking irreversible disturbance of the balance of nature.
   Distributor: Visual Education Centre
   115 Berkeley Street
   Toronto, Ontario
   M5A 2W8
   Price: Purchase: $410.00
   Rental: 41.00

2. *No Room for Wilderness.*

   26 min., 1968, colour. Junior high to college.
   Depicts the transition of once lush South African wilderness into civilization, illustrating the interrelationships in nature of which humankind is a part. Concludes that we are subject to the same natural laws that govern animal population.
   Distributor: Association Films
   333 Adelaide Street West
   Toronto, Ontario
   Price: Purchase: $290.00
   Rental: 30.00

3. *Tragedy of the Commons.*

   23 min., 1971, colour. High school to college.
   Designed to provoke discussion of the various issues involved in the current dilemma of rapidly diminishing resources, growing population, and environmental stress on a finite planet.
   Distributor: Holt, Rinehart and Winston of Canada, Ltd.
   55 Horner Avenue
   Toronto, Ontario
   M8Z 4X6
   Price: Purchase: $310.00
   Rental: 22.00

LONG FILMS (41 to 60 minutes)

1. *Limits to Growth.*

   60 min., 1973, colour. High school to college.
   This film summarizes the findings and recommendations of the *Limits to Growth* report.
   Distributor: Ruth Raymond Limited
   207 Queen's Quay West
   Suite 509-513
   Toronto, Ontario
   M5J 1A7
   Price: Purchase: $695.00
   Rental: 75.00

2. *Say Goodbye.*

50 min., 1971, colour. High school to college.
A farewell to wildlife species which have become or are expected to become extinct. Contains footage of shooting of several animals, which may be disturbing to some students.
Distributor: Visual Education Centre
115 Berkeley Street
Toronto, Ontario
M5A 2W8
Price: Purchase $665.00 long version
Rental: 60.00 (52 minutes)
Purchase: $320.00 short version
Rental: 32.00 (20 minutes)

3. *Time of Man.*

50 min., colour. Junior high to college.
Examines primitive tribes' interaction with the environment by studying current groups in New Guinea and Africa. Discusses the potential for contemporary man to accommodate population growth and technological change within ecosystem on which he depends for survival.
Distributor: For Purchase — Ealing Scientific Limited
9649 Cote de Liesse
Dorval, P.Q.
For Rental — Canadian Film Institute
303 Richmond Road
Ottawa, Ontario
Price: Purchase: $494.00
Rental: 20.00

SLIDES AND FILMSTRIPS

1. *Feeding the Billions.*

A series of four color and sound filmstrips, 16 min. each, records or cassettes, 1976. Advanced elementary to college.
Relates current world food shortages to population dynamics as well as to production techniques, history of agriculture, health, and other relevant topics. An extensive teacher's manual is included.
Distributor: Macmillan Audio-Visual
Macmillan Library Services
866 Third Avenue
New York, N.Y. 10022
(no Canadian distributor)
Price: Purchase: U.S. $95.00

2. *Population Debate.*

A series of four color and sound filmstrips, 12-13 min. each, records or cassettes, 1975. Junior high to high school.
Examines demographic variables and the consequences of population change. Raises social and economic questions related to food and population. Produced in association with the Population Institute, Washington. Teacher's manual provided.
Distributor: Sunburst Communications
41 Washington Avenue
Pleasantville, N.Y. 10572
(no Canadian Distributor)
Price: Purchase: U.S. $82.50

3. *Population Dynamics.*

A series of three color and sound filmstrips, 30 min. total, records or cassettes, 1975. Junior high to high school.
A filmstrip package intended to develop awareness of population dynamics. Important population terms are defined, and examples are given. Review sheets and teacher's manual provided.
Distributor: Arbor Scientific Ltd.
Box 113
Port Credit, Ontario
L5G 4L5
Price: Purchase: $34.00 (#78W0510)

4. *Population: The People Problem.*

Two color and sound filmstrips, 24 min. total, records or cassettes, 1975. Junior high to college.
Concentrates on demographic trends and variables, and gives clear explanations of statistical terms. Teacher's manual including discussion questions, vocabulary, and recommended readings.
Distributor: Multi-Media Productions, Inc.
Box 5097
Stanford, Cal. 94305
(no Canadian distributor)
Price: Purchase: U.S. $16.95

5. *Science and Ethics of Population Control: An Overburdened Earth.*

A series of slides with sound on records or cassettes, 36 min. total, 1975. High school to college.
Discusses the biological causes of human population change, and the implications and choices for society. Comprehensive teacher's manual provided.
Distributor: Center for Humanities, Inc.
2 Holland Avenue
White Plains, N.Y. 10603
(distributed in Canada, but must be ordered in U.S.)
Price: Purchase: U.S. $109.50

I B (iii)
Research and Training Institutions

The following produce research-based studies on national population topics:

1. Institute for Research on Public Policy,
   3535 Queen Mary Road,
   Montreal, Que. H3V 1H8

   See, for example, Leroy O. Stone and Claude Marceau, *Canadian Population Trends and Public Policy Through the 1980's.* Montreal: McGill-Queen's University Press, 1977, 109 pp.

2. Science Council of Canada,
   150 Kent St., 7th Floor,
   Ottawa, Ont. K1P 5P4

   See, for example, *Population, Technology, and Resources, Report No. 25.* July, 1976, 91 pp.

3. Economic Council of Canada,
   333 River Road, P.O. Box 527,
   Vanier, Ont. K1P 5V6

   See, for example, *Living Together: A Study of Regional Disparities.* Ottawa: Dept. of Supply and Services, 1977, 247 pp.

4. Population Research Foundation,
   419 Markham St.,
   Toronto, Ont. M6G 2L1

   See, for example, *Canadian Population Concerns:* Proceedings of a Seminar held June 17 and 18, 1976, Toronto.

5. Population Research Laboratory,
   Dept. of Sociology,
   The University of Alberta
   Edmonton, Alta. T6G 2H4

   See, for example, *Canadian Studies in Population,* a journal published annually.

6. L'Association des Démographes du Québec,
   2041 Dallaire, app. 26,
   Ste-Foy, Qué. G1V 1N5

   See, for example, *Bulletin de L'Association des Démographes du Québec,* a journal published quarterly.

7. Population Estimates and Projections Division,
   Census Field — Statistics Canada,
   Ottawa, Ont. K1A 0T6

   See, for example, *Population Projections for Canada and the Provinces, 1972-2001.* Ottawa: Information Canada, 1974, 181 pp.

8. Demographic Group
   Ministry of State for Urban Affairs,
   Ottawa, Ont. K1A 0P6

   See, for example, *Inventory and Consistency Analysis of Provincial and Urban Population Projections in Canada* (forthcoming).

9. Dept. of Manpower and Immigration,
   Ottawa, Ont. K1A 0J9

   See, for example, *Internal Migration and Immigrant Settlement.* Ottawa: Information Canada, 1975, 81 pp.

10. Demographic Policy Secretariat,
    Dept. of Manpower and Immigration,
    Ottawa, Ont. K1A 0J9

    See, for example, *Toward A Demographic Policy for Canada.* Feb. 1976, 91 pp.

Training Institutions

The following institutions train students in demography and population studies:

1. Dept. of Demography,
   Université de Montréal,
   C.P. 6128
   Montréal, P.Q. H3A 6J4

2. Dept. of Sociology,
   University of Western Ontario,
   London, Ont. N6B 1V4

3. Dept. of Sociology,
   Carleton University,
   Ottawa, Ont. K1V 8X5

4. Dept. of Sociology,
   University of Alberta,
   Edmonton, Alta. T6G 2H4

5. Dept. of Educational Planning,
   Ontario Institute for Studies in Education,
   252 Bloor St. W.,
   Toronto, Ont. M5S 1V5

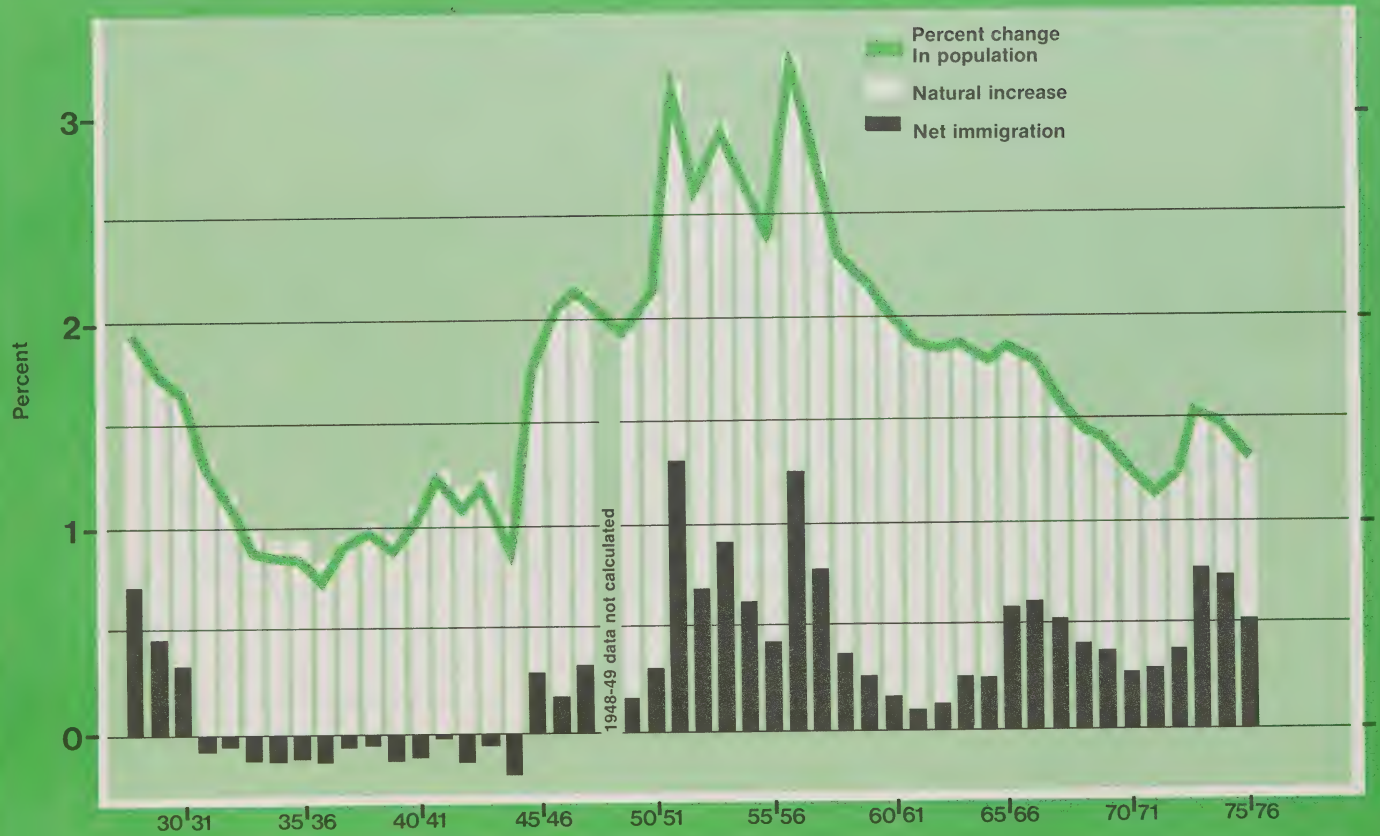
II A (vi)
Components of Canadian Population Growth: 1928-29 to 1975-76

Although annual data on births, deaths, and immigrants are available from 1921, annual estimates of emigration are available only from 1928. Hence, this chart covers only the period from 1928 to 1976. These data show that the contribution of natural increase to the annual growth rate has ranged from 59 per cent to 121 per cent over this period.

For the whole period, the average contribution of natural increase to the annual growth of population was 88 per cent, with net immigration contributing the remaining 12 per cent. The rate of natural increase averaged about 15 per thousand population or 1.5 per cent during that time. Since 1965-66, however, net immigration has exceeded its average contribution to growth in the period, except for 1970-71. In 1974-75, for the first time since these data have been assembled, net immigration was about equal to natural increase as a contributor to annual growth.

The average annual growth rate over the post-war period has been two per cent, but it fell to as low as 1.1 per cent in 1971-72. For the calendar year 1976 it is estimated to have been 1.33 per cent. This reduction from the level of 1.6 per cent in 1974-75 is attributed to lower levels of immigration.

COMPONENTS OF CANADIAN POPULATION GROWTH: 1928-29 TO 1975-76



M.E. Fleming, 1967. Cited in M.V. George, *Population Growth in Canada*, 1971 Census of Canada, V (Part 1). Ottawa: Statistics Canada, 1976, p.11. Cat. No. 99-701. Figures for after 1970-71 obtained from Population Estimates and Projections Division, Statistics Canada.

II A (v)
Immigration and Emigration: Canada, 1871-1971

This chart shows Canada's long history as an immigrant-receiving country. From 1871 until the beginning of the 20th century there was a period of slow growth. Emigration, during that period, often outstripped immigration. Emigrants included both Canadian-born and foreign-born people, and Canada may have been, at times, a clearing-house and distribution centre for some European immigrants.

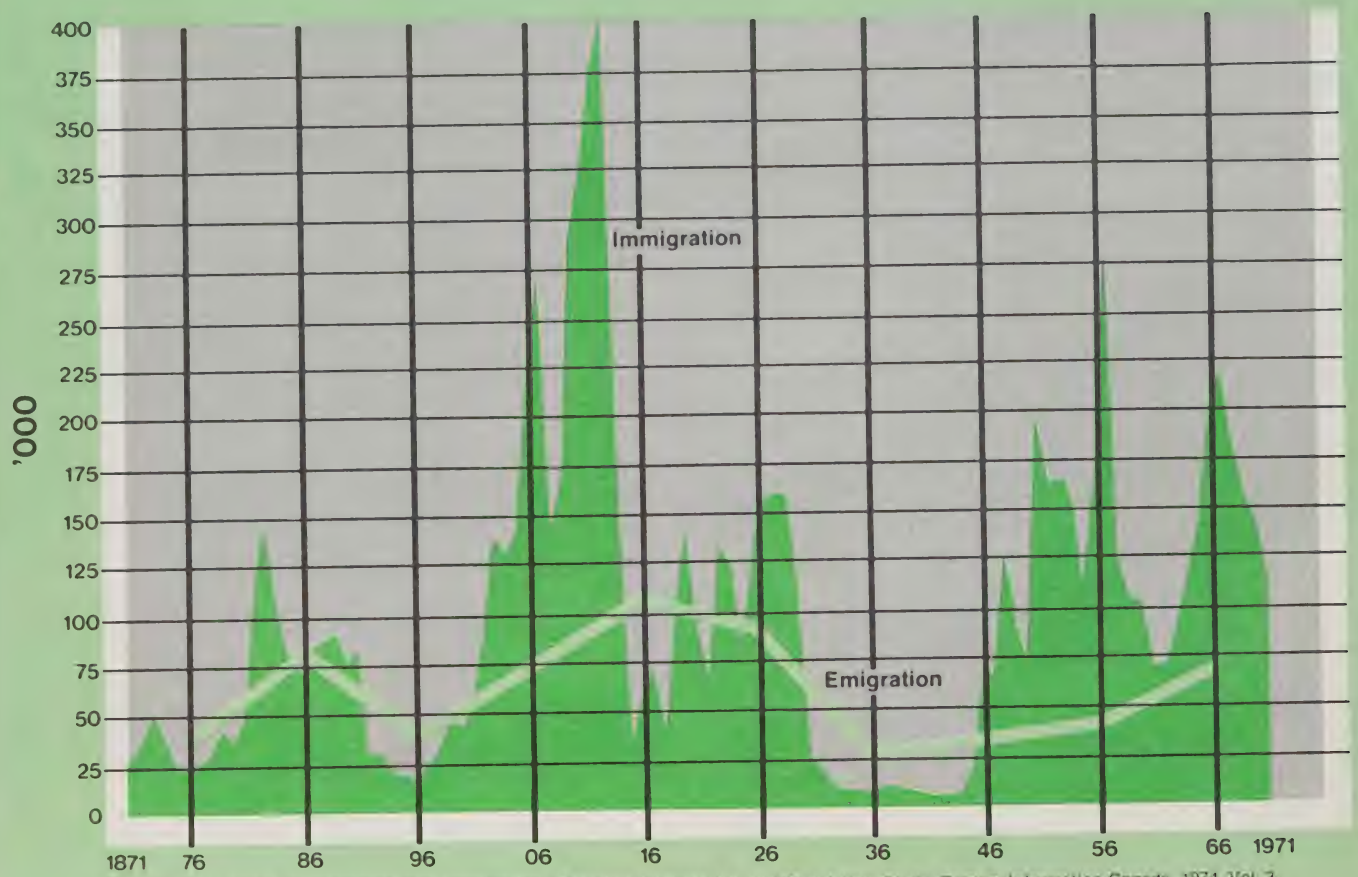
The beginning of the 20th century witnessed a massive settling of the Canadian West. Over 1.5 million immigrants entered Canada between 1900 and 1910, as many as had arrived during the previous 40 years. The peak year for immigration was 1913, when just over 400,000 immigrants were landed. While immigration remained high in the decades 1911-21 and 1921-31, higher levels of emigration meant that growth through net immigration was reduced. This was followed by low levels during the depression and World War II.

The post-war immigration flow to Canada has shown continued volatility. There have been two peak years: 1957 (282,000) and 1967 (223,000). The lowest point was in 1961 (71,000). In the 1970's, immigration to Canada has thus far ranged from a low of 122,000 in 1971 and 1972 to a high of 218,000 in 1974. Average annual gross immigration to Canada since 1946 has been about 140,000.

Emigration totals are not compiled; emigration data are usually calculated as a residual from census to census. In the 1970's emigration is estimated by Statistics Canada to have fallen to between 40,000 and 60,000 per year with 40,000 being the rough estimate for 1976. Other estimates of emigration for the post-1971 period have sometimes varied widely. The Special Joint Committee on Immigration estimated that emigration amounted to one third of gross immigration. Using this method, emigration was approximately 55,000 annually for the period 1971-75. Using the residual method of Statistics Canada it was 44,000 annually.

Emigration data shown on the chart are based on calculations of emigration as a residual between each census. (The residual calculation is explained in the Definition for International Migration.) The figures were then averaged for each ten-year period, and are shown at the mid-point of each such period; e.g., emigration figures for 1921-1931 are averaged over that decade, and the average is shown at 1926.

IMMIGRATION AND EMIGRATION: CANADA, 1871-1971



Canada. Department of Manpower and Immigration. *Canadian Immigration and Population Study*. Ottawa: Information Canada, 1974. Vol. 3, *Immigration and Population Statistics*, p. 31. Emigration data derived from M.V. George, *Population Growth in Canada*, 1971 Census of Canada. V (Part 1). Ottawa: Statistics Canada, 1976, p.7. Cat. No. 99-701.

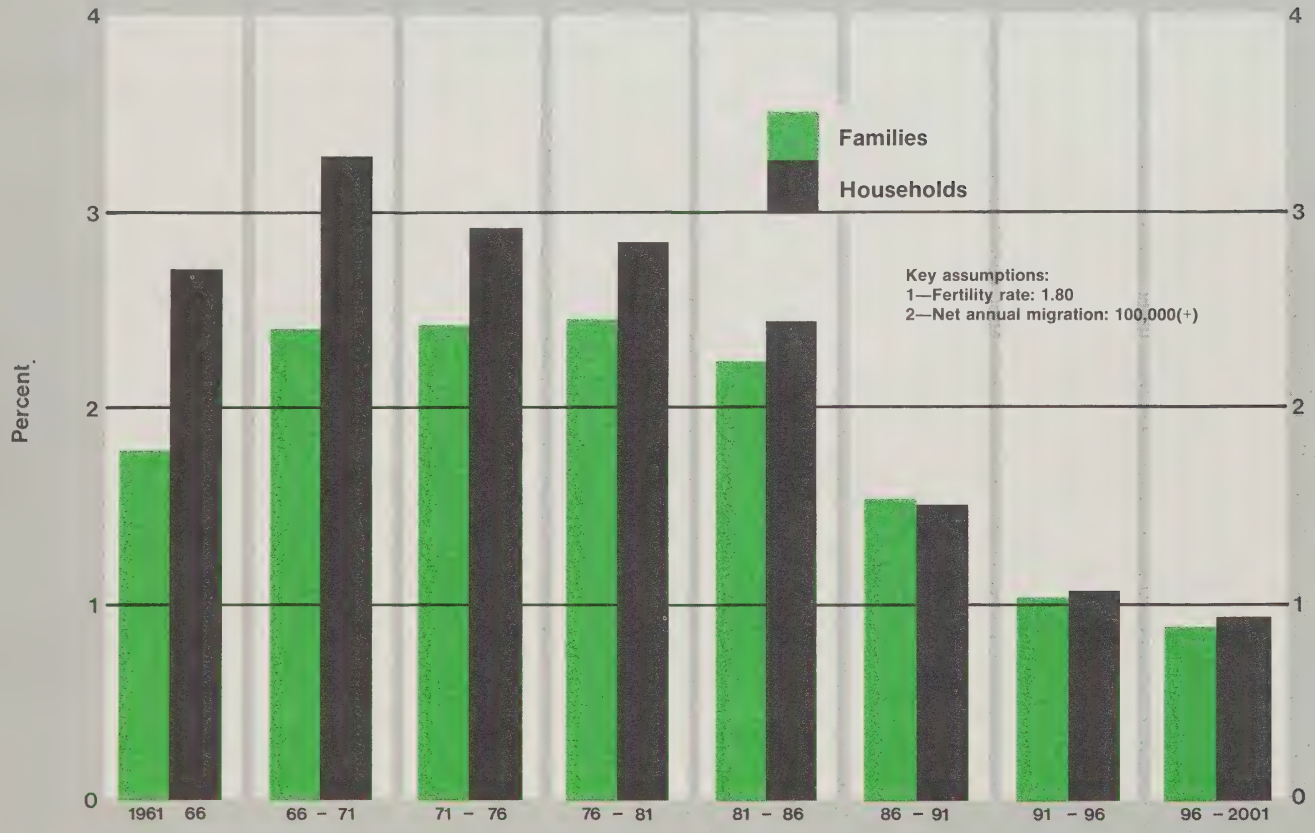
II C (viii)

Annual Per Cent Growth, Households and Families: Canada, 1961-2001

The growth of families has a direct and significant effect on changes in the number and structure of households over the years. In the 1971 Census, four fifths of all households were family households, most of which were husband-wife families. Prospective changes in the number and composition of families, besides explaining these trends in households, have important implications for future lifestyles and fertility patterns, as well as for the general economic and social fabric of the country.

In 1971, there were 5,070,700 families in Canada. These, according to the projection shown, will increase to 7,111,200 in 1986 and to 8,411,200 by 2001. The growth in families will be about 2.3 per cent per annum until 1986, because the baby-boom generation will reach the prime ages of family formation during this period. After 1986, the rate of increase in family formation will fall; it will be as low as one per cent per annum by the end of the century.

ANNUAL PERCENT GROWTH, HOUSEHOLDS AND FAMILIES: CANADA, 1961-2001



Statistics Canada, *Household and Family Projections for Canada and the Provinces to 2001*
Ottawa: Statistics Canada, 1974, pp.51,67. Cat. No. 91-517.

II B (ii)
Annual Growth Rates and Components by Provinces: 1956-57 to 1975-76

The chart shows the annual contributions which net immigration, net interprovincial (internal) migration, and natural increase have made to the growth of provinces in Canada from 1956-57 to 1975-76.

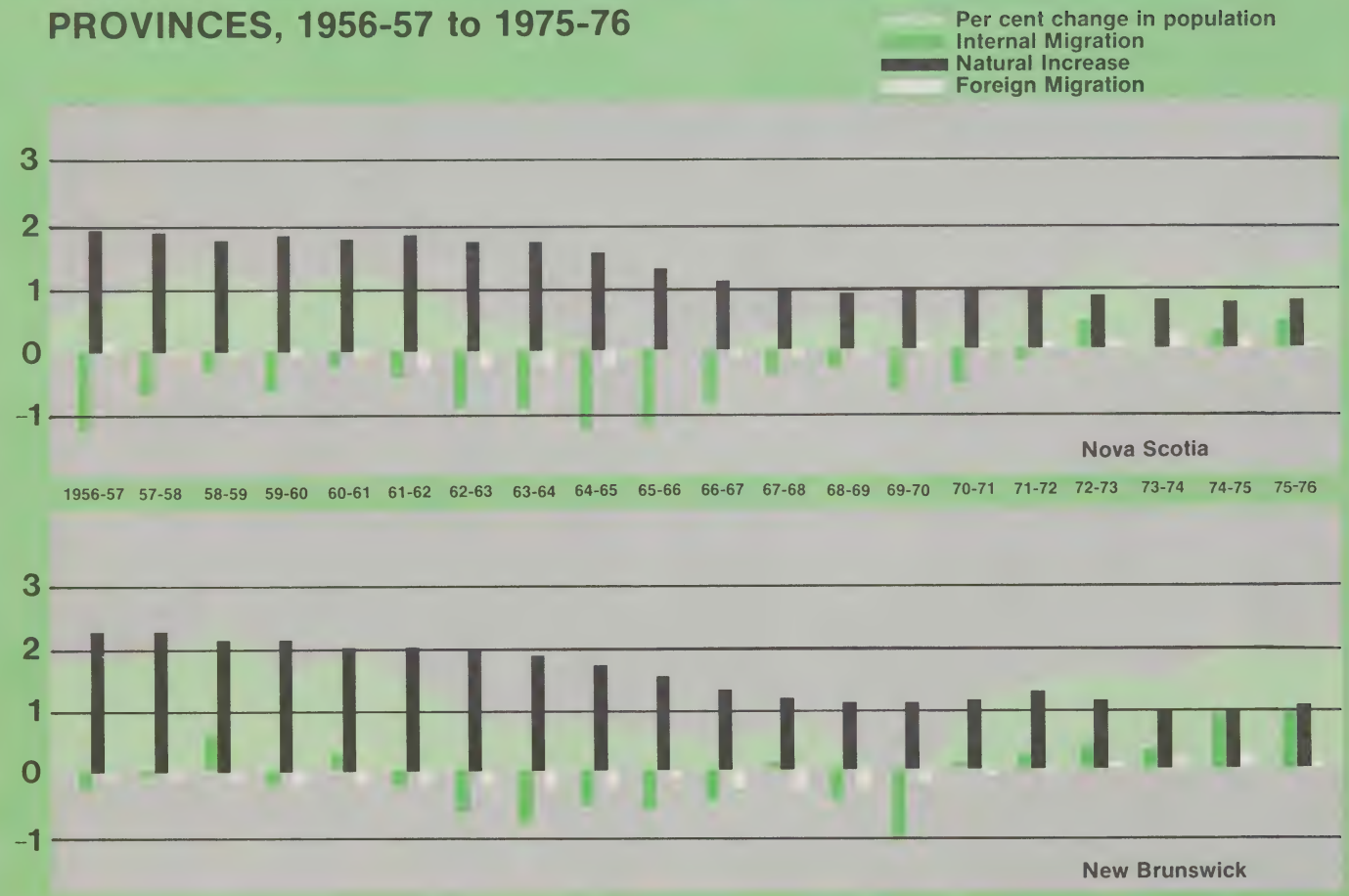
Nova Scotia:

The average annual rate of population growth during the period was .66 per cent. Natural increase was the overwhelming contributor to growth, but as in Prince Edward Island, since the early 1970's, migration, especially internal, has also become important.

New Brunswick:

With an average annual population growth rate of 1.21 per cent over the 20-year period, New Brunswick has shown the same pattern of growth in its components as that of Prince Edward Island and Nova Scotia. Natural increase dominates during the period, but in the past few years, net internal migration almost equals natural increase in importance.

ANNUAL GROWTH RATES AND COMPONENTS BY PROVINCES, 1956-57 to 1975-76



Special tabulation by Population Estimates and Projections Division, Statistics Canada. Cited in Canada. Department of Manpower and Immigration, *Internal Migration and Immigration Settlement*. Ottawa: Information Canada, 1975, pp. 26-28.

II B (ii)
Annual Growth Rates and Components by Provinces: 1956-57 to 1975-76

The chart shows the annual contributions which net immigration, net interprovincial (internal) migration, and natural increase have made to the growth of provinces in Canada from 1956-57 to 1975-76.

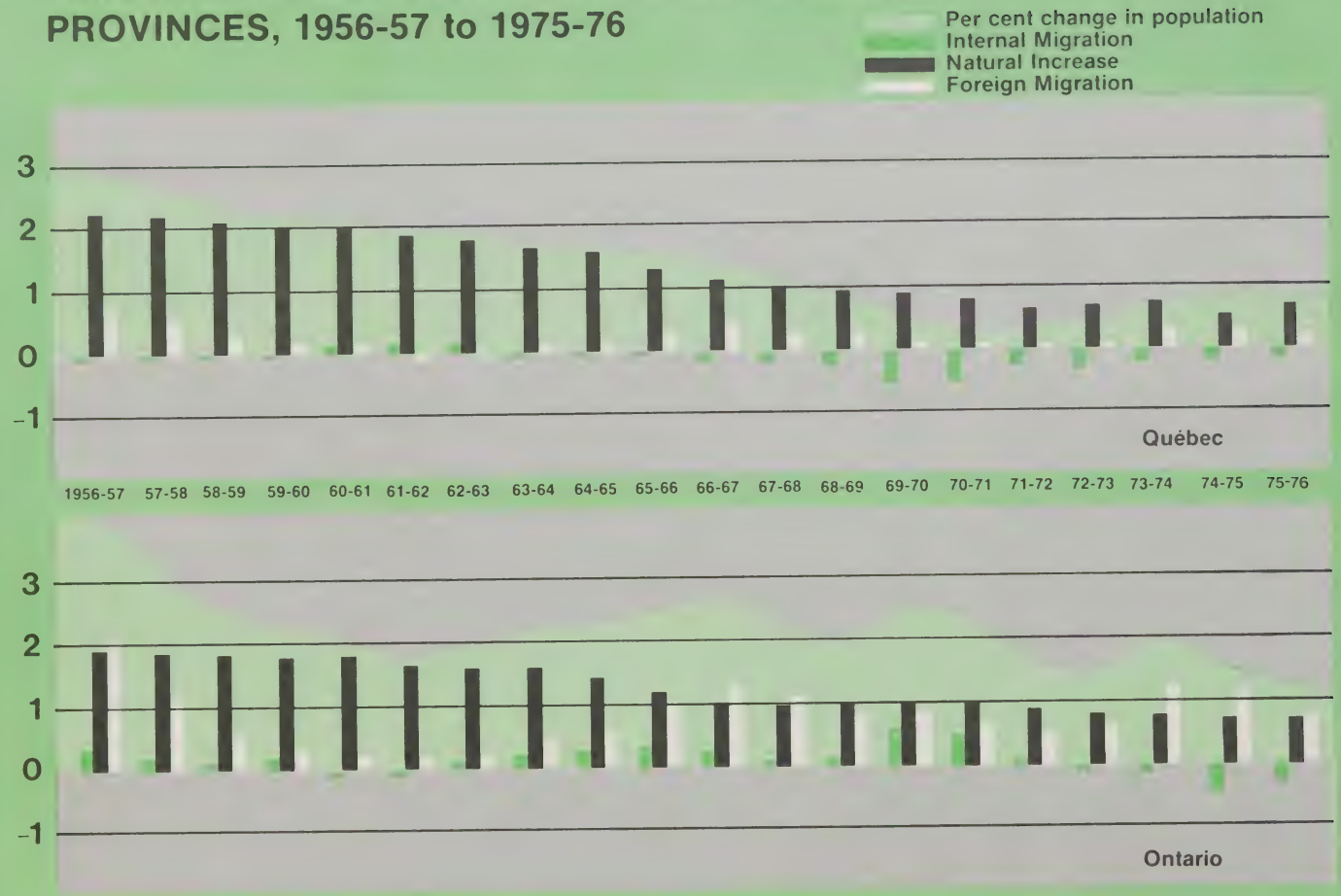
Quebec:

Quebec now has the lowest rate of population growth of any province in Canada, owing to its low fertility rate and to the relatively small impact of migration on total growth. Quebec has had an average growth rate of 1.43 per cent over the period, but for the last eight years (1968-69 to 1975-76) it has been less than one per cent.

Ontario:

Ontario has had consistently strong growth throughout the period, at an average annual rate of 2.22 per cent. Natural increase and net immigration have been both significant, with natural increase being the major source of growth from 1958-59 to 1963-64, and net immigration being slightly more important in 1956-57, 1966-67, 1967-68, 1973-74, and 1975-76. Internal migration has made a fairly modest contribution except for two years in which it was high (1969-70 and 1970-71). Since 1972-73, internal migration has been negative, significantly so for the last two years of the period.

ANNUAL GROWTH RATES AND COMPONENTS BY PROVINCES, 1956-57 to 1975-76



Special tabulation by Population Estimates and Projections Division, Statistics Canada. Cited in Canada. Department of Manpower and Immigration, *Internal Migration and Immigration Settlement*. Ottawa: Information Canada, 1975, pp. 26-28.

II B (ii)
Annual Growth Rates and Components by Provinces: 1956-57 to 1975-76

The chart shows the annual contributions which net immigration, net interprovincial (internal) migration, and natural increase have made to the growth of provinces in Canada from 1956-57 to 1975-76.

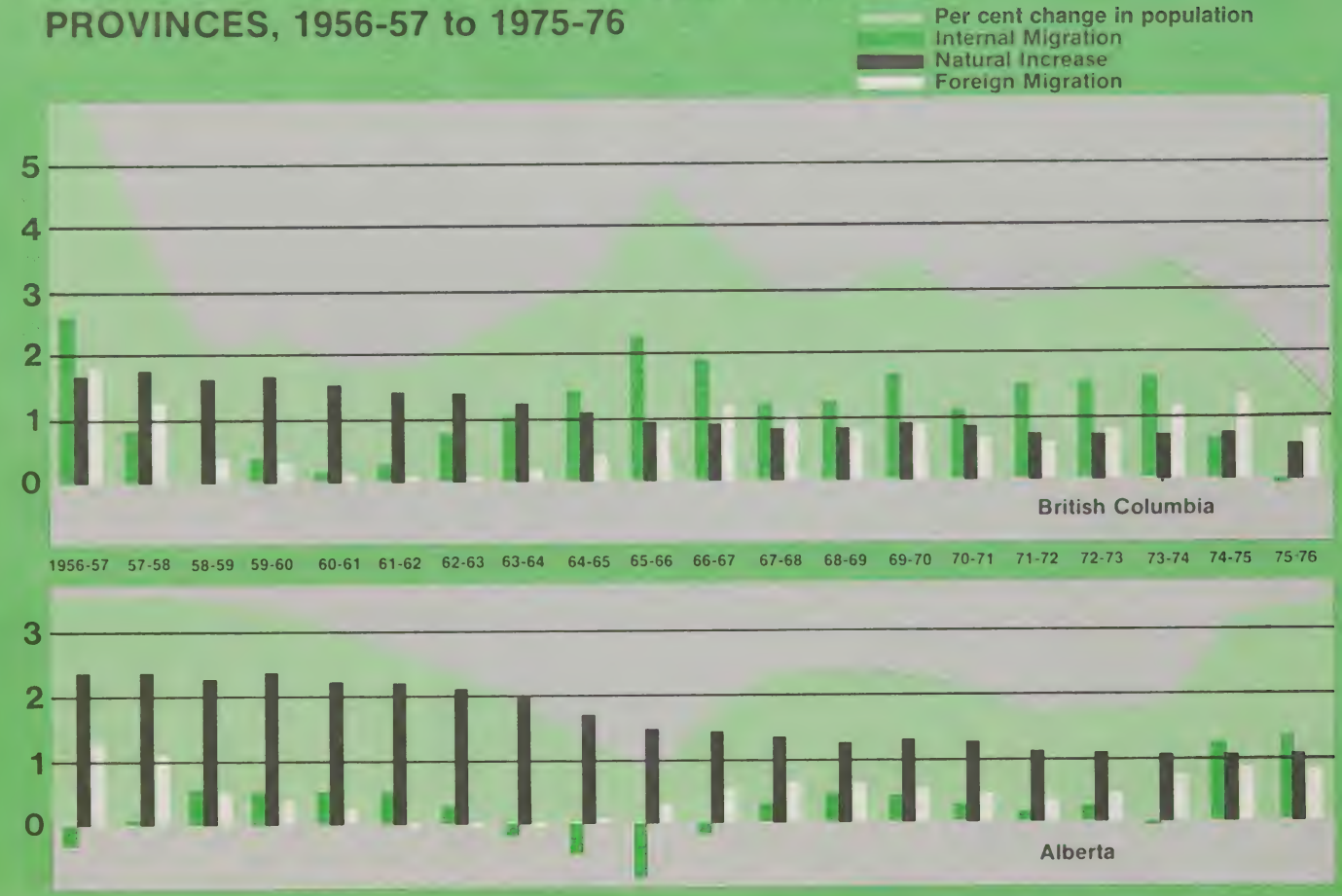
Alberta:

Alberta has had growth similar to Ontario's during the period, averaging 2.41 per cent per year. Again, throughout the first half of the period, natural increase dominated, while in the second half net internal migration and net immigration became more significant because of lower rates of natural increase and greater in-migration. In 1975-76, Alberta grew by 3.32 per cent, the fastest rate of growth of any province.

British Columbia:

British Columbia had the fastest average growth of any province during the period, the rate averaging 2.93 per cent per annum over the period. All components contributed to this growth, but as for other provinces, natural increase dominated throughout the first half of the period. While traditionally the fastest growing province, British Columbia has recently been overtaken by Alberta.

ANNUAL GROWTH RATES AND COMPONENTS BY PROVINCES, 1956-57 to 1975-76



Special tabulation by Population Estimates and Projections Division, Statistics Canada. Cited in Canada. Department of Manpower and Immigration, *Internal Migration and Immigration Settlement*. Ottawa: Information Canada, 1975, pp. 26-28.

II B (ii)
Annual Growth Rates and Components by Provinces: 1956-57 to 1975-76

The chart shows the annual contributions which net immigration, net interprovincial (internal) migration, and natural increase have made to the growth of provinces in Canada from 1956-57 to 1975-76.

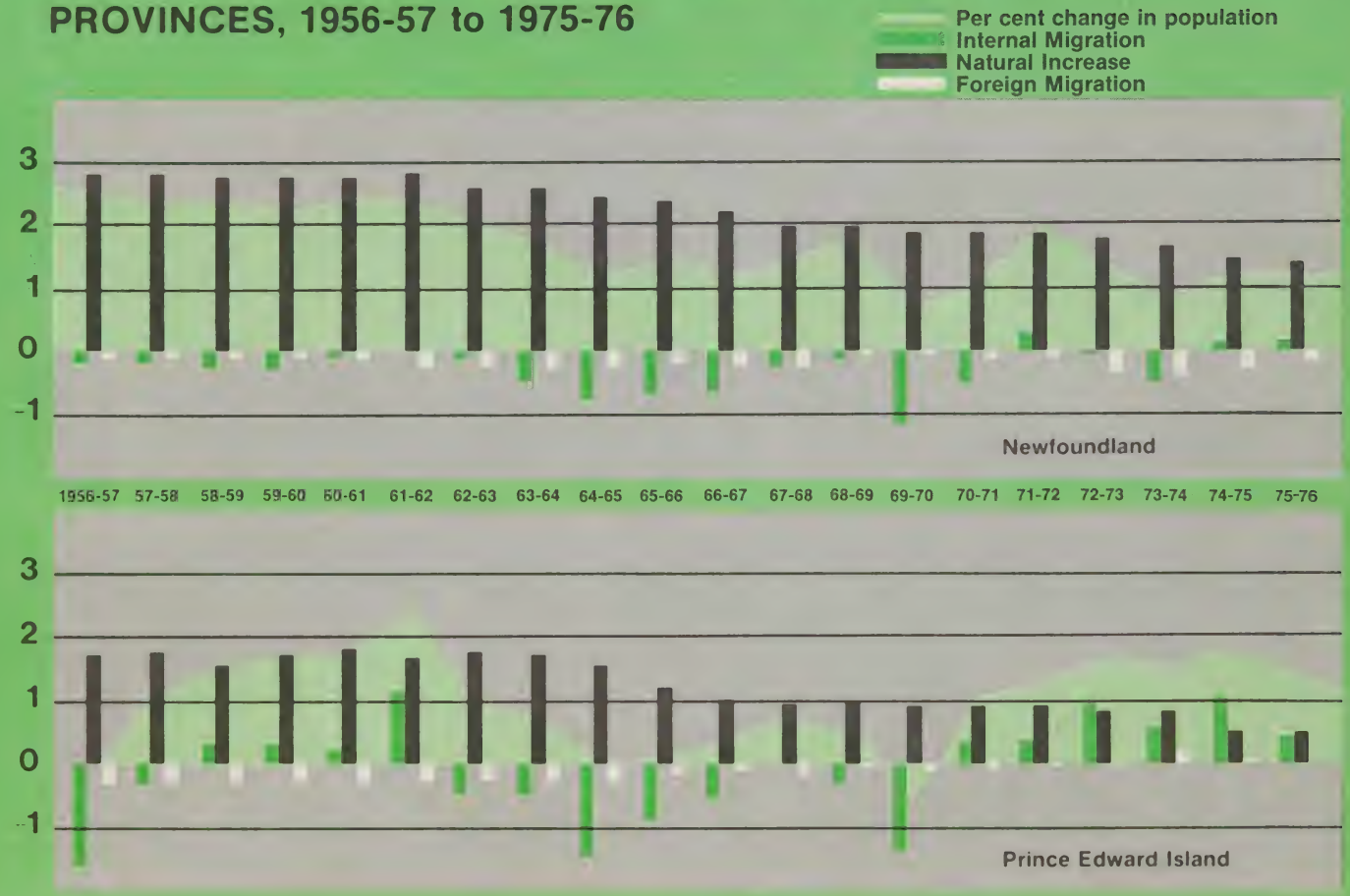
Newfoundland:

The average annual rate of population growth during the 20-year period has been 1.67 per cent. As shown, natural increase has been the only significant contributor to this growth, with net internal migration being positive only in 1971-72, 1974-75, and 1975-76; net immigration has been consistently negative over the period.

Prince Edward Island:

The average annual rate of population growth has been much more erratic than Newfoundland's; it has been as high as 2.49 per cent in 1961-62 and as low as -.65 per cent in 1969-70. Changes in the rate of population growth are sometimes exaggerated by the small population size of the province. The average over the period was .99 per cent per year. Up to 1970, natural increase was the only significant contributor to growth, but since then net internal migration has also become important, to a point where in 1974-75 it was almost twice as high as natural increase.

ANNUAL GROWTH RATES AND COMPONENTS BY PROVINCES, 1956-57 to 1975-76



Special tabulation by Population Estimates and Projections Division, Statistics Canada. Cited in Canada. Department of Manpower and Immigration, *Internal Migration and Immigration Settlement*. Ottawa Information Canada, 1975, pp. 26-28.

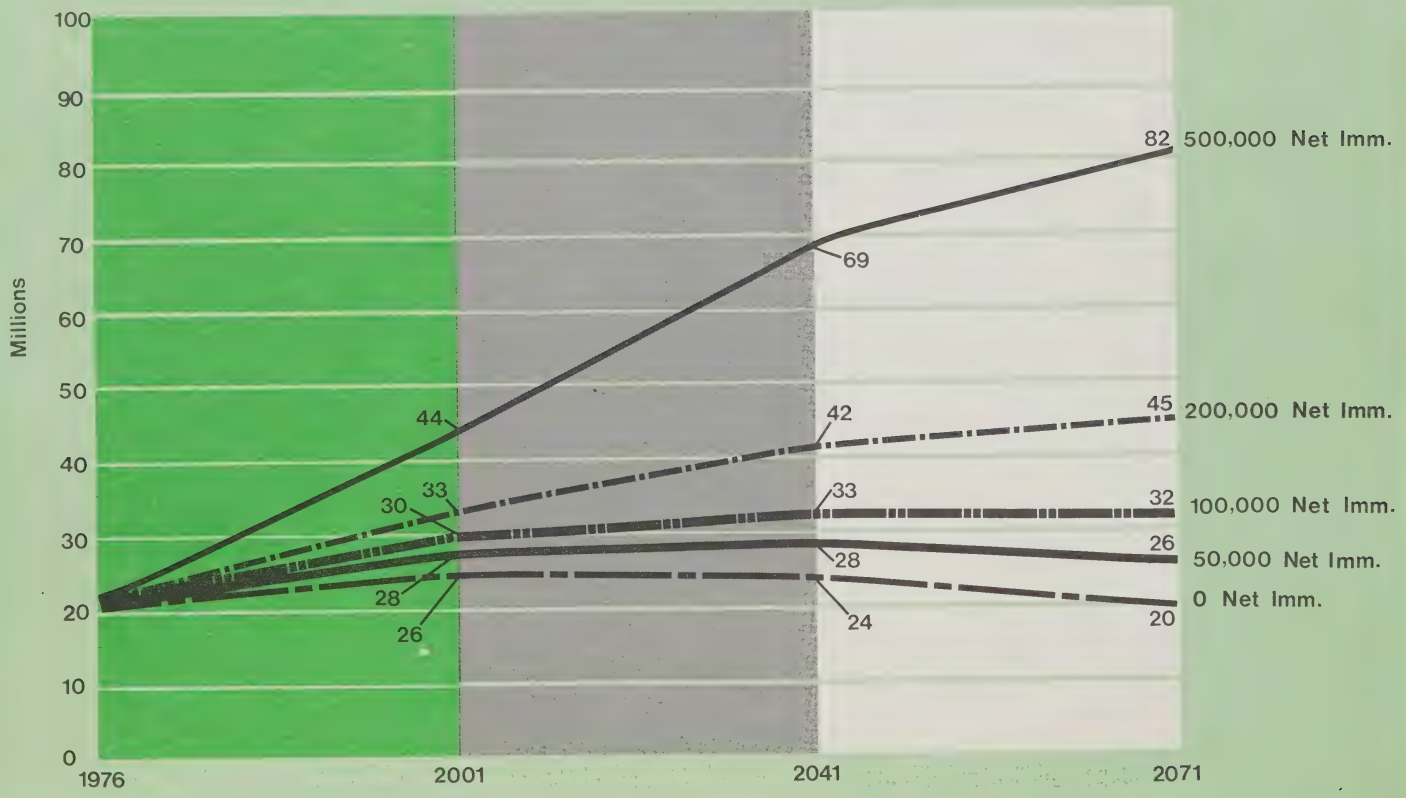
II A (ix)
Possible Impact of Net Immigration on Canada's Population: 1971-2071

Net immigration to Canada during the past 30 census years has been as low as −6,659 (1945-46) and as high as 185,839 (1956-57). During the period, it has averaged about 78,000 per annum. The chart illustrates the possible impact of net immigration on future Canadian population growth for ranges of zero to 500,000 net immigration. Fertility is assumed to remain constant at the 1976 level of 1.8.

The chart shows that even with zero net immigration, the Canadian population will continue to grow by at least three million to 2001, in spite of continued low fertility. (More will be said about this demographic momentum in the section on structural profiles.) The difference between net immigration of 50,000 and 200,000 would lead, by 2001, to a difference of five million people (28 versus 33 million), but by 2041 the difference becomes 14 million people (28 versus 42 million).

While these projections are useful in assessing alternatives, they must be viewed cautiously. Both net immigration and the total fertility rate are likely to vary; hence the projections are not likely to match actual population growth. They do provide, nevertheless, an outline upon which the data base for future population growth options may rest.

POSSIBLE IMPACT OF VARIOUS NET IMMIGRATION LEVELS ON CANADA'S POPULATION, 1971-2071



Assume Fertility is 1.8

Statistics Canada, special tabulation.

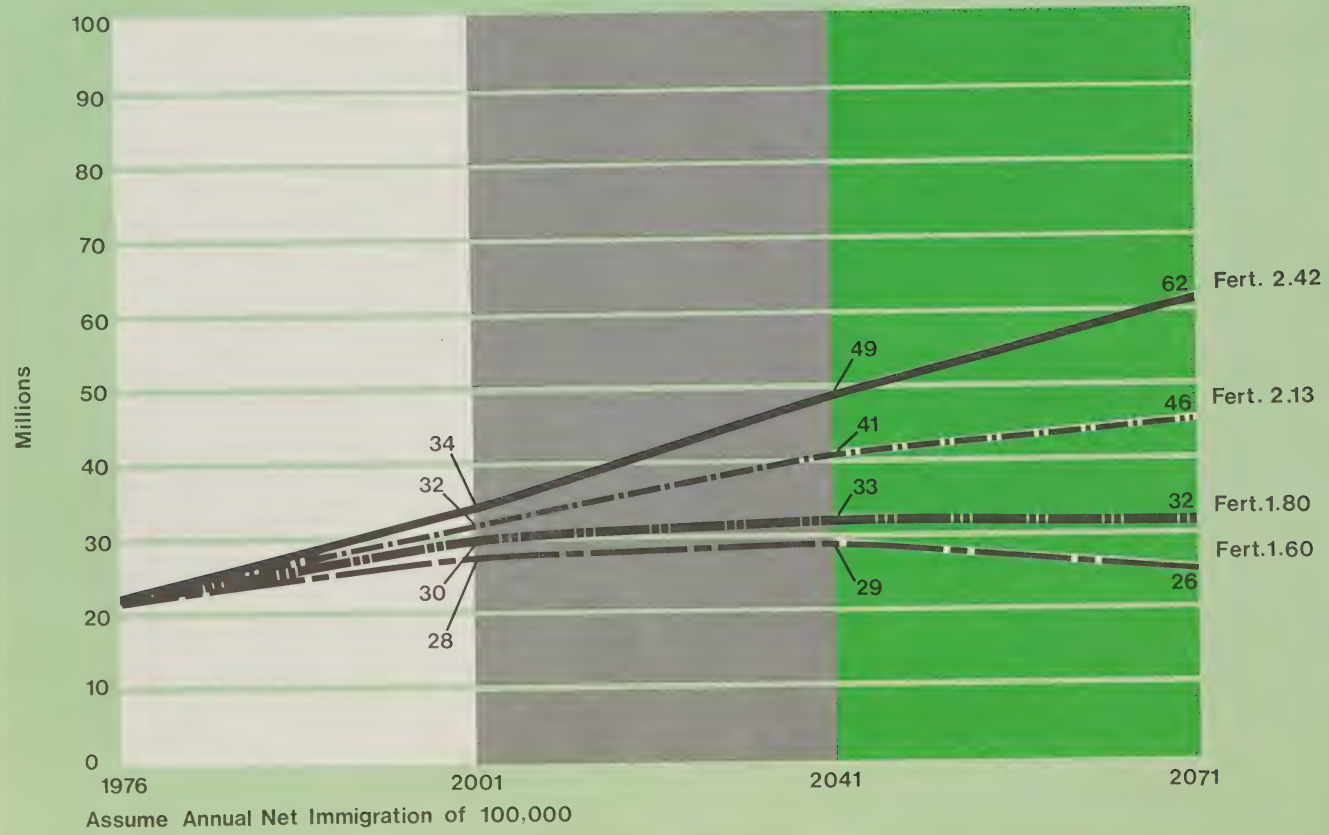
II A (viii)
Possible Impact of Various Fertility Rates and Constant Net Immigration on Canada's Population: 1971-2071

Fertility in Canada over the past 25 years has been as high as 3.9 (1959) and as low as 1.8 (1976). Most demographers agree that we are unlikely to see the higher rates again in the foreseeable future, but there is much disagreement as to whether fertility will stabilize at or slightly below the replacement level of 2.13. The projection illustrates the impact that four possible fertility rates would have on Canada's future population size, assuming that net immigration were constant at 100,000 per annum.

The fertility rate of 2.13 is the replacement level. If we project ahead a hundred years at that rate, the Canadian population would stabilize around the year 2071 at about 46 million. If, however, the present rate of fertility (1.8) is maintained, the population would stabilize around the year 2041 at 33 million.

This chart illustrates strikingly the collective impact of individual decisions about family size. For example, in 2001, the difference between 1.6 and 2.42 children per family is six million people. This difference continues to be magnified through time, and by 2071 reaches 36 million people.

POSSIBLE IMPACT OF VARIOUS FERTILITY RATES AND CONSTANT NET IMMIGRATION ON CANADA'S POPULATION, 1971-2071



Assume Annual Net Immigration of 100,000

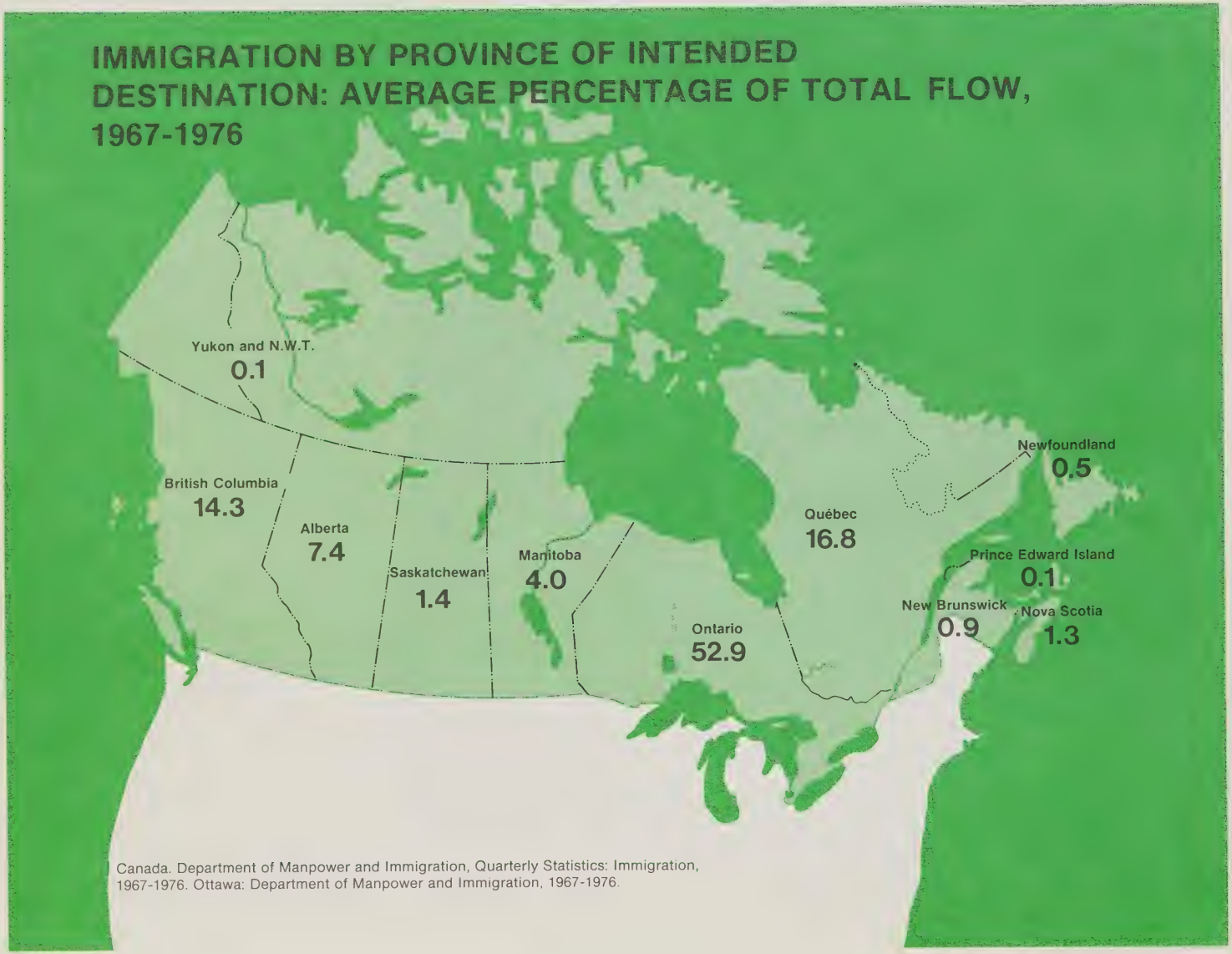
Statistics Canada, special tabulation.

II B (iv)

Immigration by Province of Intended Destination: Average Percentage of Total Flow, 1967-1976

From 1967 to 1976, Ontario was the chief recipient of immigrants to Canada, receiving an average of almost 53 per cent of the total. This varied from a high of 56.0 per cent in 1973 to a low of 48.2 per cent in 1976. Quebec followed with 16.8 per cent of the total flow over the period; British Columbia was third with 14.3 per cent. As with provincial population size, these three provinces dominate the pattern of settlement of immigrants, accounting for 84 per cent of all immigrants who came to Canada during the ten-year period.

IMMIGRATION BY PROVINCE OF INTENDED DESTINATION: AVERAGE PERCENTAGE OF TOTAL FLOW, 1967-1976



Canada. Department of Manpower and Immigration, Quarterly Statistics: Immigration, 1967-1976. Ottawa: Department of Manpower and Immigration, 1967-1976.

II B (vi)
Urban Population: Canada and Regions, 1851-1971

Long-term trends and the evolution of urbanization for each province and geographic region are shown on the chart. In 1851, Quebec, Ontario, and New Brunswick had almost the same level of urbanization, but by 1971 the level of urbanization in Ontario became 25.5 percentage points higher than in New Brunswick. The most spectacular transformation has taken place in Alberta, particularly during the past 20 years: the urban proportion grew from 47.6 per cent in 1951 to 73.5 per cent in 1971. This rapid urbanization in Alberta may be attributed, in large measure, to the expansion of oil and natural gas production and associated industrialization. For the entire period 1851 to 1971, Ontario and Quebec had higher levels of urbanization than Canada as a whole, and except for the period 1891 to 1911, Ontario had the highest level of urbanization among the provinces. Between 1881 and 1891 British Columbia's level jumped from 18.3 per cent to 42.6 per cent and the province maintained its position until 1911. By 1971, all provinces except Quebec, Ontario, Alberta, and British Columbia had levels of urbanization lower than the national average. These provinces received the largest numbers of internal and international migrants. Most of the immigrants from abroad have settled in urban areas, particularly in the later years.

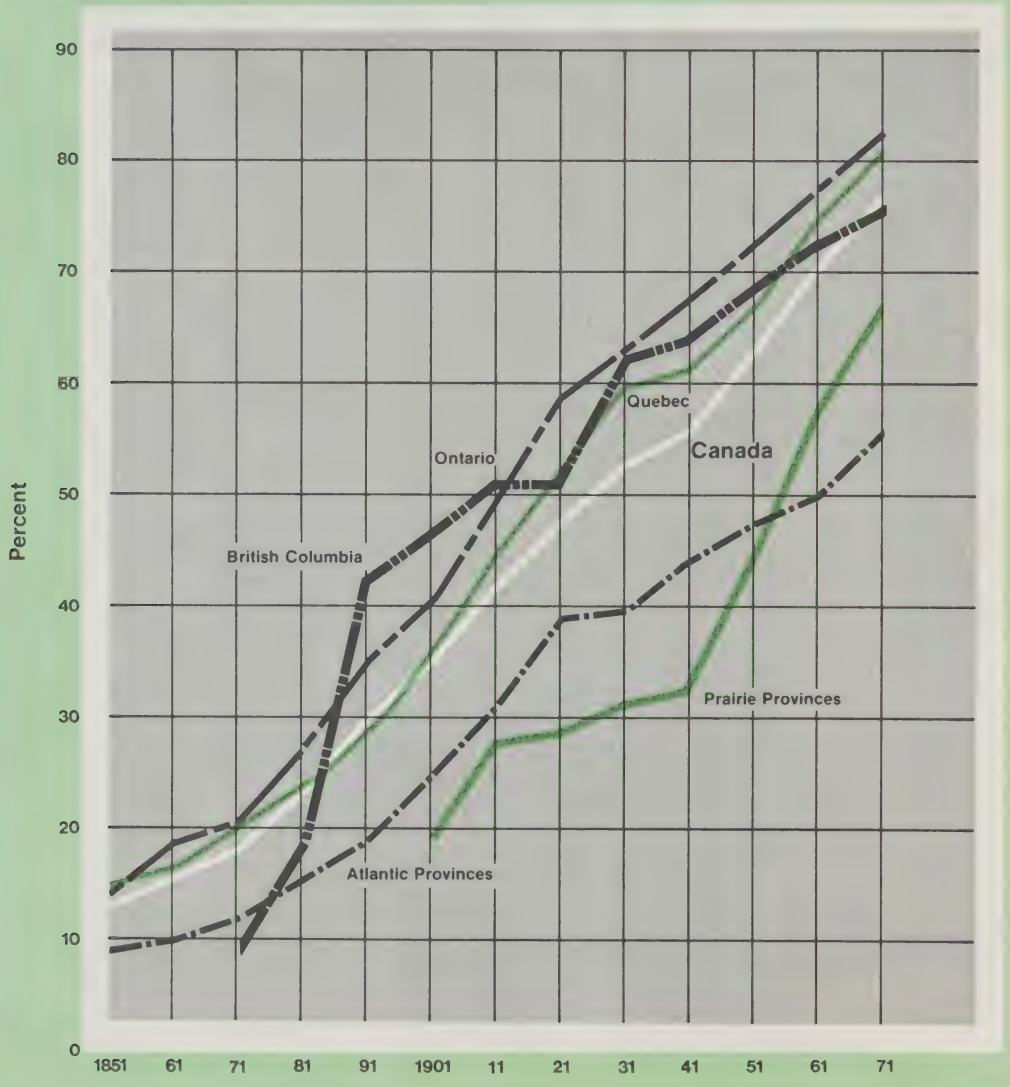
Percentage of Population in the Urban Category, Canada and Provinces, 1851-1971

Canada/Province	1851	1861	1871	1881	1891	1901
Newfoundland	..	..	..	..	..	..
Prince Edward Island	..	9.3	9.4	10.5	13.1	14.5
Nova Scotia	7.5	7.6	8.3	14.7	19.4	27.7
New Brunswick	14.0	13.1	17.6	17.6	19.9	23.1
Quebec	14.9	16.6	19.9	23.8	28.6	36.1
Ontario	14.0	18.5	20.6	27.1	35.0	40.3
Manitoba	..	..	..	14.9	23.3	24.9
Saskatchewan	..	..	..	..	..	6.1
Alberta	..	..	..	..	..	16.2
British Columbia	..	..	9.0	18.3	42.6	46.4
Canada	13.1	15.8	18.3	23.3	29.8	34.9

	1911	1921	1931	1941	1951	1961	1971
Newfoundland	..	..	..	..	43.3	50.7	57.2
Prince Edward Island	16.0	18.8	19.5	22.1	25.1	32.4	38.3
Nova Scotia	36.7	44.8	46.6	52.0	54.5	54.3	56.7
New Brunswick	26.7	35.2	35.4	38.7	42.8	46.5	56.9
Quebec	44.5	51.8	59.5	61.2	66.8	74.3	80.6
Ontario	49.5	58.8	63.1	67.5	72.5	77.3	82.4
Manitoba	39.3	41.5	45.2	45.7	56.0	63.9	69.5
Saskatchewan	16.1	16.8	20.3	21.3	30.4	43.0	53.0
Alberta	29.4	30.7	31.8	31.9	47.6	63.3	73.5
British Columbia	50.9	50.9	62.3	64.0	68.6	72.6	75.7
Canada	41.8	47.4	52.5	55.7	62.9 (62.4)	70.2 (69.7)	76.6 (76.1)

Source: M. V. George, *Population Growth in Canada*, 1971 Census of Canada, Volume V (Part 1), p. 44.

PERCENTAGE OF URBAN POPULATION OF CANADA AND REGIONS, 1851-1971



M.V. George, *Population Growth in Canada*, 1971 Census of Canada, V (Part 1), p.45.

II B (vii)

Population of Census Metropolitan Areas as a Proportion of their Respective Provinces, 1976

The population of the 22 Census Metropolitan Areas in 1971 was 11,875,000, or about 55 per cent of the total population of Canada; 72 per cent of the total urban population resided in such areas. The number of C.M.A.'s increased to 23 in the 1976 Census, with Oshawa having achieved C.M.A. status.

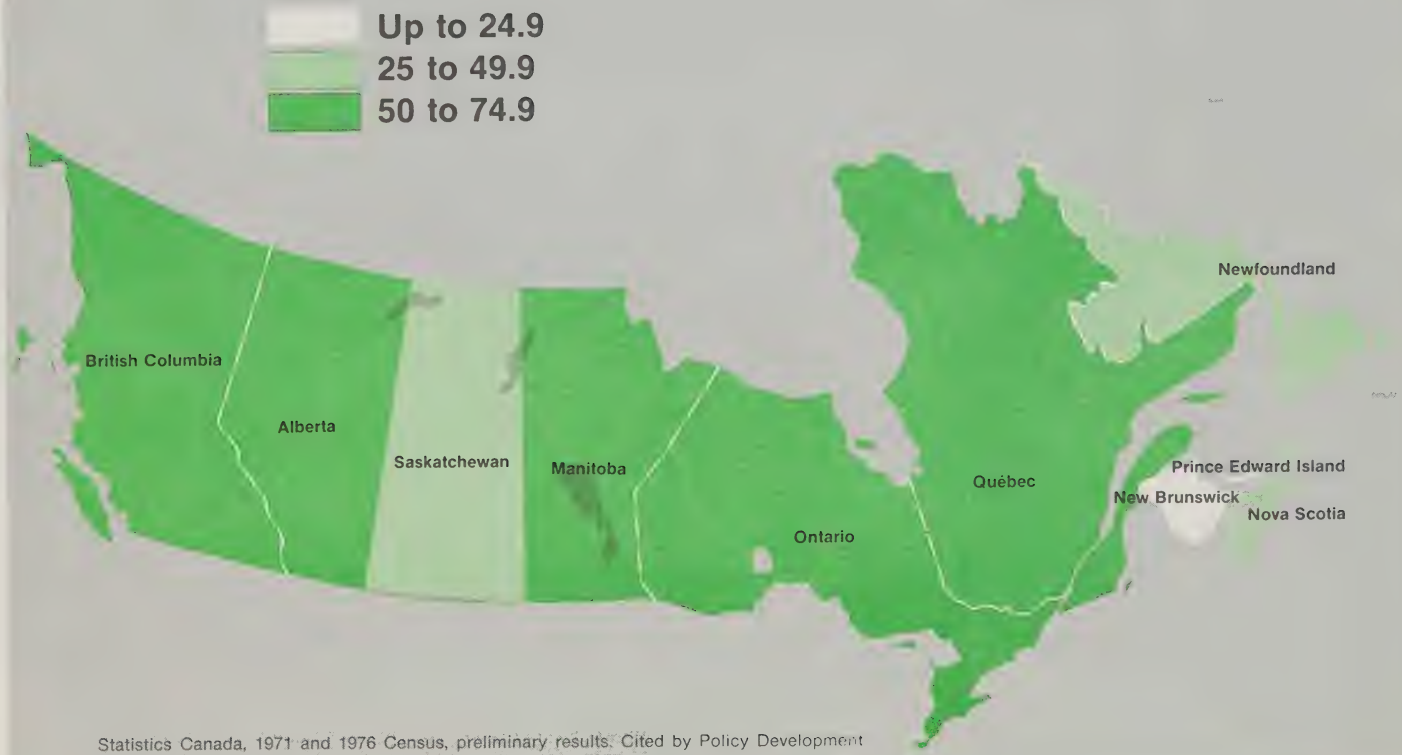
Of the 23 areas in 1976, nine were in Ontario, five in the Prairies, four in Quebec, three in Atlantic Canada, and two in British Columbia. Montreal was the largest metropolitan area with a population 2,758,780 in 1976 (according to preliminary results of the 1976 Census), followed by Toronto with 2,753,112, Vancouver with 1,135,774, and Ottawa-Hull with 668,853. The smallest metropolitan area was Saint John with 109,700.

Ontario leads all provinces with almost two thirds of its total population found in C.M.A.'s (see table below). Quebec, Manitoba, British Columbia, and Alberta all have more than half their populations in C.M.A.'s. Prince Edward Island is the only province without a C.M.A.

Proportion of Provincial Population Found in C.M.A.'s (1976)

	%
Newfoundland	25.67
Prince Edward Island	0.00
Nova Scotia	32.18
New Brunswick	16.51
Quebec	58.40
Ontario	64.74
Manitoba	56.73
Saskatchewan	30.99
Alberta	55.60
British Columbia	56.03

POPULATION OF CENSUS METROPOLITAN AREAS AS A PROPORTION OF THEIR RESPECTIVE PROVINCES, 1976



Statistics Canada, 1971 and 1976 Census, preliminary results. Cited by Policy Development Division, Central Mortgage and Housing Corporation, May, 1977.

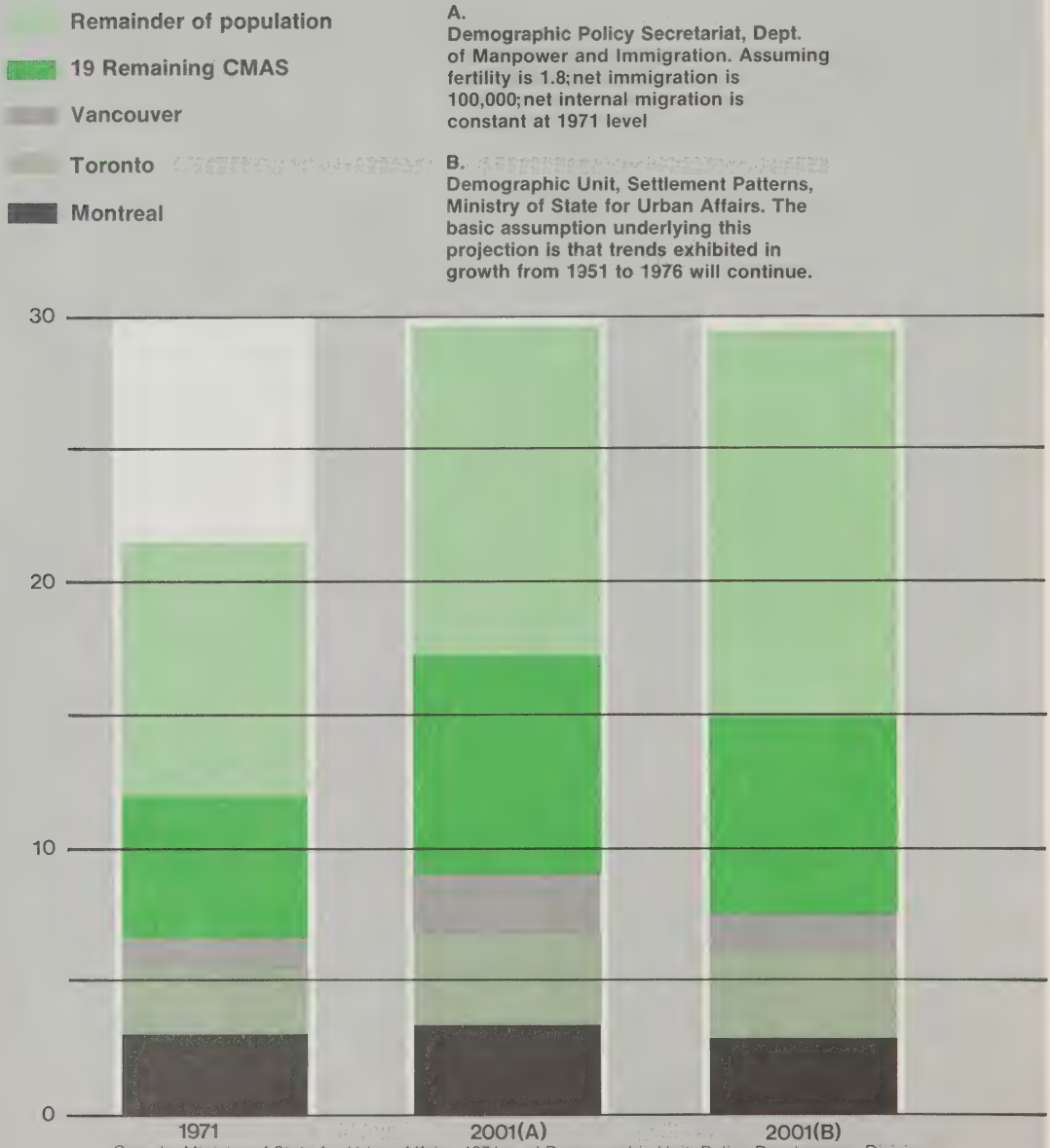
II B (viii)
Projections of Canadian Metropolitan Growth: 1971-2001

An earlier chart indicated the growth of urbanization in Canada over the past century. Census metropolitan areas are a reflection of that urbanization. In 1971 there were 22 of them, and they represented 55 per cent of the total Canadian population. In 1971, over 25 per cent of the total Canadian population lived in the Montreal, Toronto, and Vancouver C.M.A.'s.

Projections of metropolitan growth to 2001 are haphazard at best. They rely on assumptions about interprovincial and intraprovincial migration, which have been much more unpredictable than changes in fertility or international migration. The projections illustrated here indicate the impact that different trends may have. While there is not much difference in the total population size projected for Canada, there are significant differences on a metropolitan scale. Projection A indicates that the 23 present metropolitan areas (Oshawa was recently added) will contain, in 2001, 58 per cent of the Canadian population. Projection B gives a representation of 50 per cent. The latter would be a five per cent reduction from the 1971 total. Montreal, Toronto, and Vancouver would grow to 9.1 million in 2001 under Projection A and represent 30 per cent of the total population. Under Projection B, they would grow to 7.4 million and represent 25 per cent of the population—about the same as they did in 1971.

The major differences in the two projections are attributable to the assumptions used. Projection B, based on the trend in metropolitan growth from 1951-1976, exhibits a shift towards non-metropolitan growth and a stabilization in the growth of Montreal, Toronto, and Vancouver. *Based on current trends,* such a projection may be more accurate than that illustrated in A, which is based on assumptions about fertility, net immigration, and net internal migration.

PROJECTIONS OF CANADIAN METROPOLITAN GROWTH, 1971-2001



Canada. Ministry of State for Urban Affairs, 1974; and Demographic Unit, Policy Development Division, Central Mortgage and Housing Corporation, Ottawa, 1977.

II C (iv)
Linguistic Composition by Mother Tongue, 1941-1971, and a Projection to 2001.

The mother tongues of Canadians are dominated by the English and French languages. The English proportion rose slightly from 56.3 in 1941 to 60.1 per cent in 1971. The French component fell from 29.2 to 26.9 per cent in the same period.

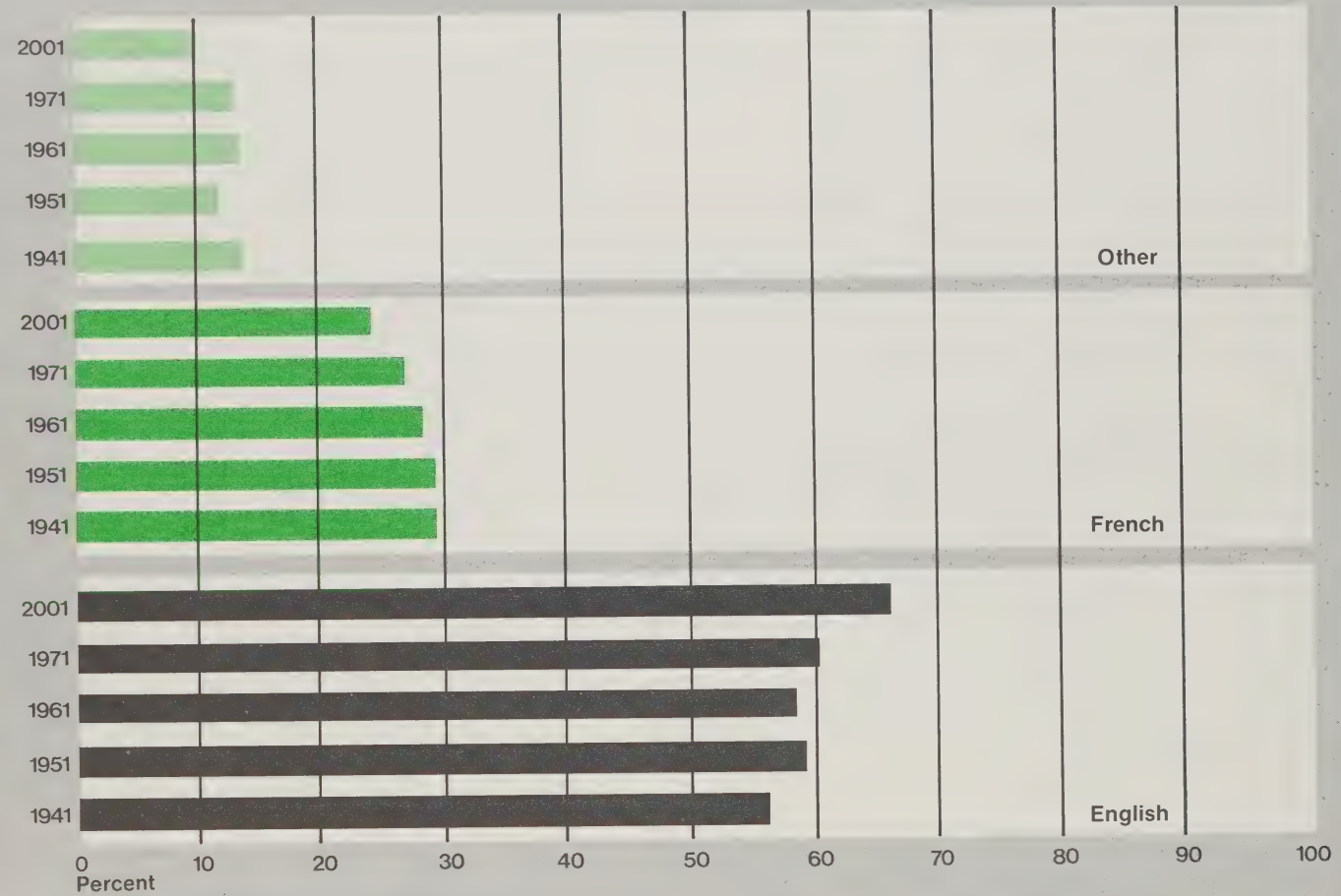
The projection made by Professor Jacques Henripin, of the University of Montréal, for 2001 assumes a fertility rate of 1.8, 100,000 net annual immigration, and 450,000 annual interprovincial migration. It also assumes that, in general, the language most frequently spoken in the home today will be the mother tongue of the next generation. Hence, the 2001 figures for mother tongue (English, 66.1 per cent; French, 24.0 per cent; Other, 9.9 per cent) are not significantly different from the language most frequently spoken in the home in 1971 (English, 67.0 per cent; French, 25.7 per cent; Other, 7.3 per cent).

Canada's Changing Linguistic Composition (Mother Tongue)

	1941	1951	1961	1971	2001
	%	%	%	%	%
French	29.2	29.0	28.1	26.9	24.0
English	56.3	59.2	58.4	60.0	66.1
Other	14.5	11.8	13.5	13.0	9.9

Source: Canada. Department of Manpower and Immigration, *Canadian Immigration and Population Study*. Ottawa: Information Canada, 1974. *Immigration and Language Imbalance* (background study by Jacques Henripin), p. 15.

LINGUISTIC COMPOSITION BY MOTHER TONGUE, 1941-1971, WITH PROJECTION TO 2001



Censuses of Canada, 1941-1971, and Canada. Department of Manpower and Immigration. *Quarterly Statistics: Immigration.* Projection by Prof. Jacques Henripin, *Immigration and Language Imbalance* (Canadian Immigration and Population Study working paper), 1974.

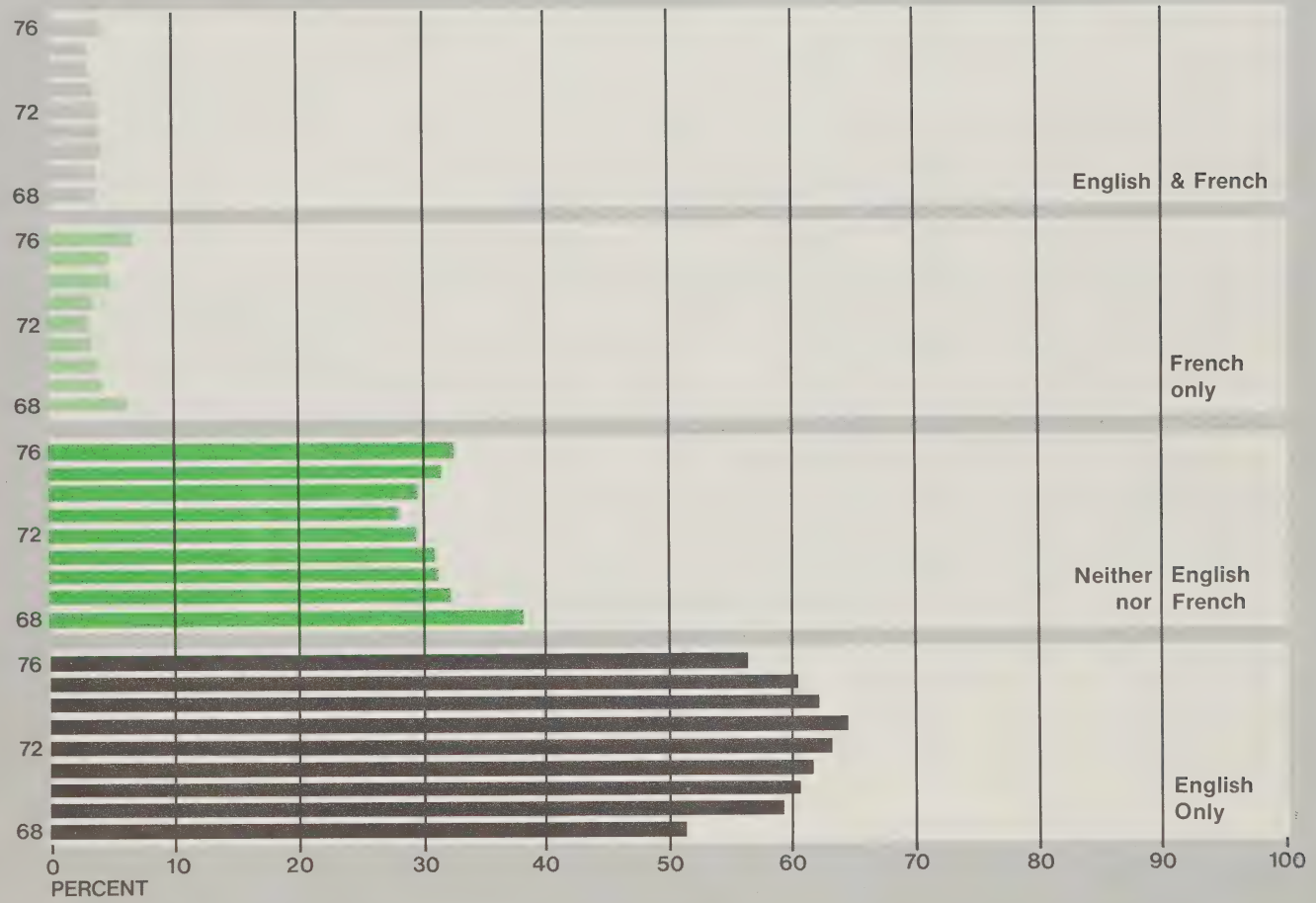
II C (v)
Ability of Immigrants to Speak English or French: 1968 to 1976

One of the reasons why English, spoken as a mother tongue, is projected to increase by 2001 is that most immigrants either speak English before they enter Canada, or learn it as their working language after they arrive. The data show this English-speaking preponderance, although there has been a decline between 1974 and 1976. Those speaking French only continue to represent a small proportion, averaging 4.6 per cent over the period.

	1968	1969	1970	1971	1972	1973	1974	1975	1976
	%	%	%	%	%	%	%	%	%
English & French	3.7	3.8	4.1	4.0	4.0	3.4	3.0	2.9	4.0
French	6.3	4.4	3.9	3.3	3.1	3.7	5.1	4.9	6.8
Neither E. nor F.	38.7	32.3	31.3	31.0	29.7	28.3	29.8	31.7	32.6
English	51.3	59.5	60.7	61.7	63.2	64.6	62.1	60.5	56.6

Source: *Quarterly Statistics: Immigration,* Department of Manpower and Immigration.

ABILITY OF IMMIGRANTS TO SPEAK ENGLISH OR FRENCH, 1968-1976



Canada. Department of Manpower and Immigration, *Quarterly Statistics: Immigration*, 1968-1976.

II C (vi)
Selected Age-Group Populations Relevant to School Enrolment: Canada: 1961-2001

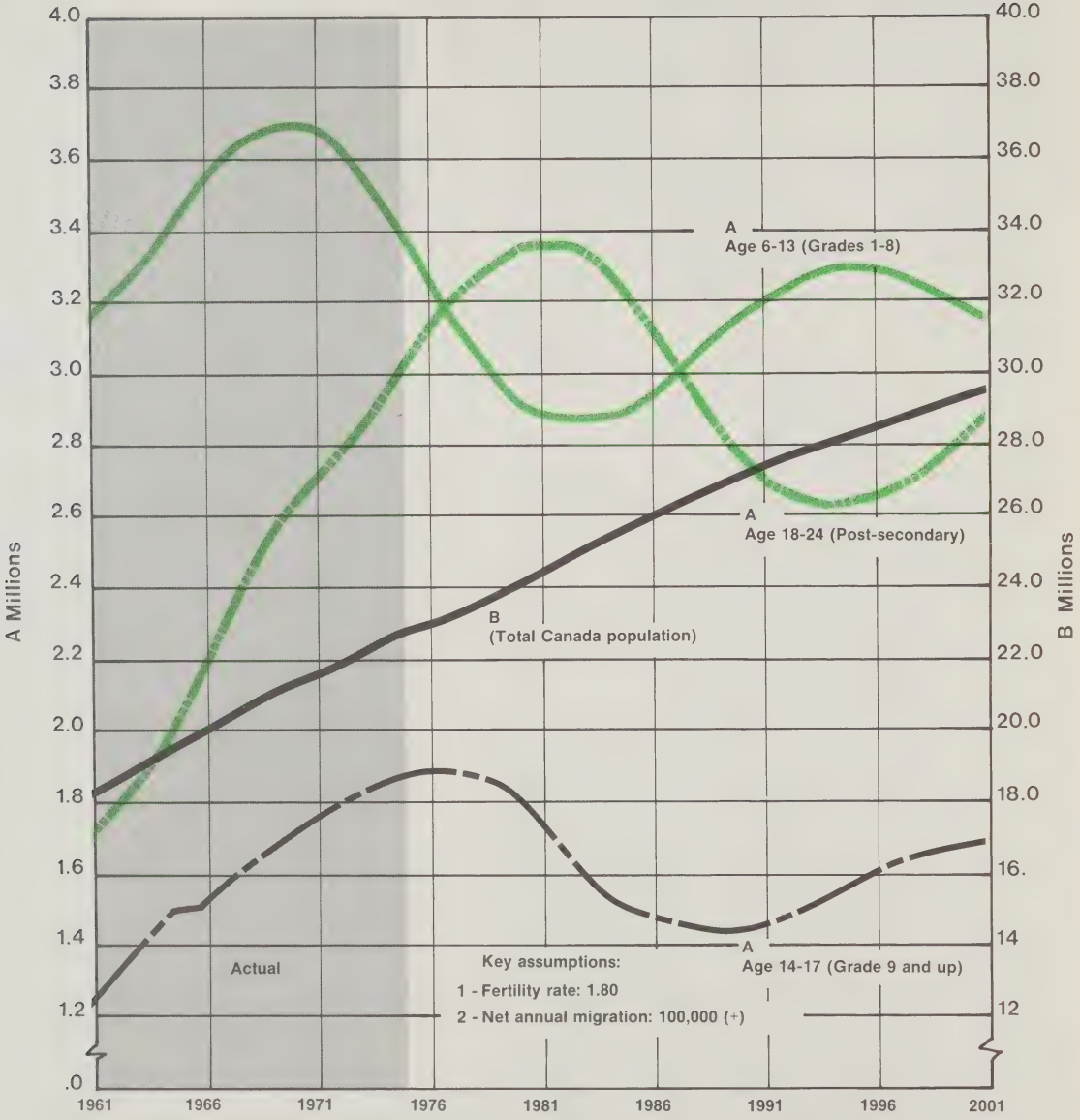
Age-structure trends in education are, for convenience, presented by three age groups: six to 13 (grades one to eight); 14 to 17 (grades nine and up); and 18 to 24 (post-secondary). Trends and projections in this chart are based on a continued fertility rate of 1.80 and average net annual immigration of 100,000.

The six-to-13 age group reached its peak in 1970 at 3.7 million, and declines 22 per cent by 1981, when it bottoms out at about 2.9 million. It grows again thereafter, and by 1994 reaches a smaller peak of just above 3.3 million.

The 14-to-17 age group reached a peak of 1.9 million in 1976, then declines about 25 per cent over the following 12 years to 1.42 million. From 1988 to 2001 it increases by 20 per cent to 1.7 million.

The post-secondary population, ages 18 to 24, peaks around 1982 at just under 3.4 million. Between 1982 and 1993 it declines 20 per cent to 2.62 million, but it increases about 10 per cent in the mid- to late-1990's.

EDUCATION COHORTS IN CANADA, 1961-2001



Special compilation by Statistics Canada, 1977.

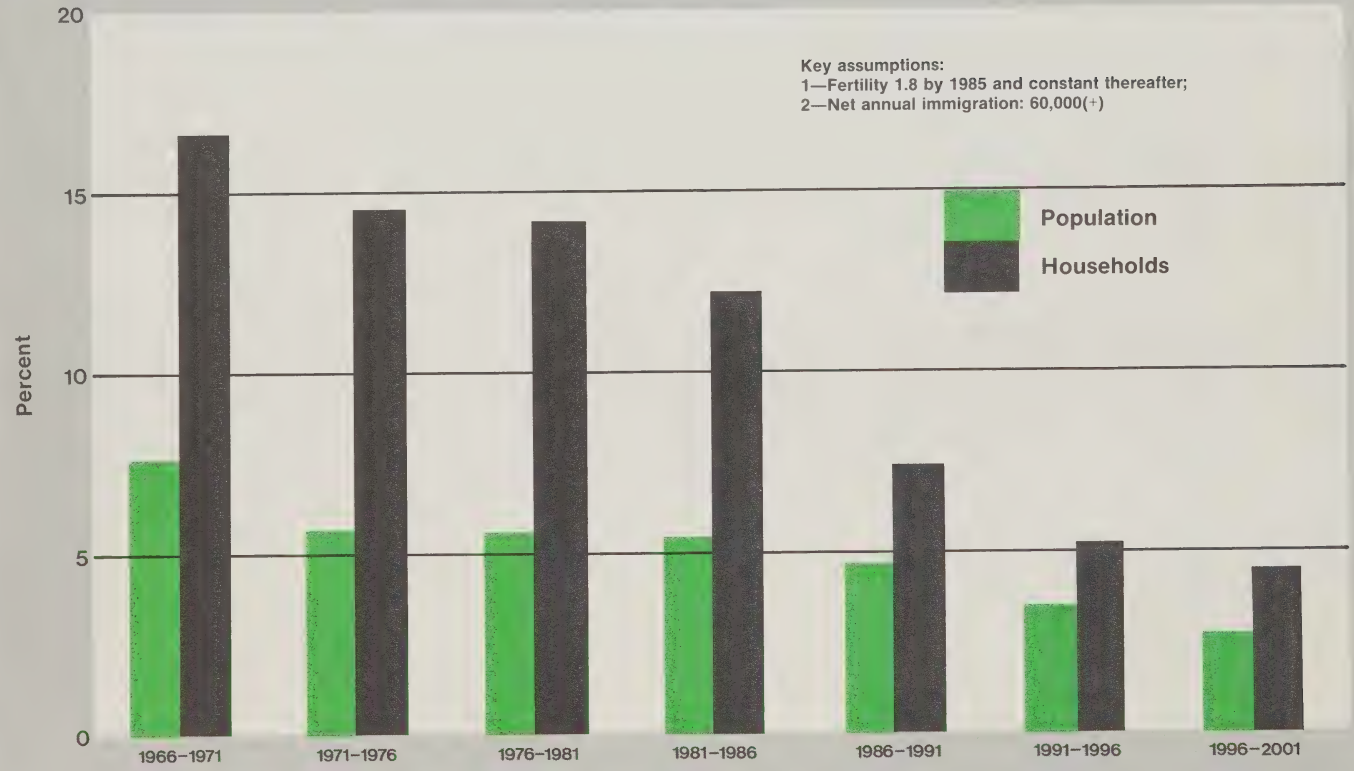
II C (vii)
Projected Per Cent Increase by Five-Year Intervals for Total Population and Households: Canada, 1966-2001

An increase in households is the most important event governing demand for dwelling units in a given period. Households are expected to increase faster than population; this is attributable to the structure of the future population of Canada, and in particular to the influence of the baby boom. From 1971 to 1986, the entire baby-boom generation is or will be in the age group 15-44, giving rise to a record increase in adults.

Assuming that the present low fertility rate continues, the increase in the number of households will continue to be higher than the rate of population growth. The rate itself will, however, be lower: about 19 per cent over the entire period 1986-2001, compared to 47 per cent during the 1971-1986 period.

Long-range provincial projections of household formation must be treated with caution because they are dependent upon uncertain internal migration assumptions.

PROJECTED PERCENT INCREASE IN FIVE YEAR INTERVALS FOR TOTAL POPULATION AND HOUSEHOLDS: CANADA, 1966-2001



Statistics Canada, *Household and Family Projections for Canada and the Provinces to 2001*
Ottawa: Statistics Canada, 1974, pp. 51, 67. Cat. No. 91-517.

II B (i)
World Urbanization: 1800 to 2000

The chart illustrates the unprecedented rate of urban growth in the world during the past 175 years. From 1800 onwards, the proportion of world population living in urban areas of 5,000 or more has doubled about every 50 years. It is expected that, if present trends continue, the 28.2 per cent of the world's population which was living in urban centers in 1950 will about double to 55.0 per cent in 2001. Moreover, the rate of growth of people living in cities of 100,000 or more is even greater. In 1950 they represented 16.2 per cent of the world's population, but by 2000 their proportion will have grown to 39.5 per cent, about two and one-half times the 1950 level.

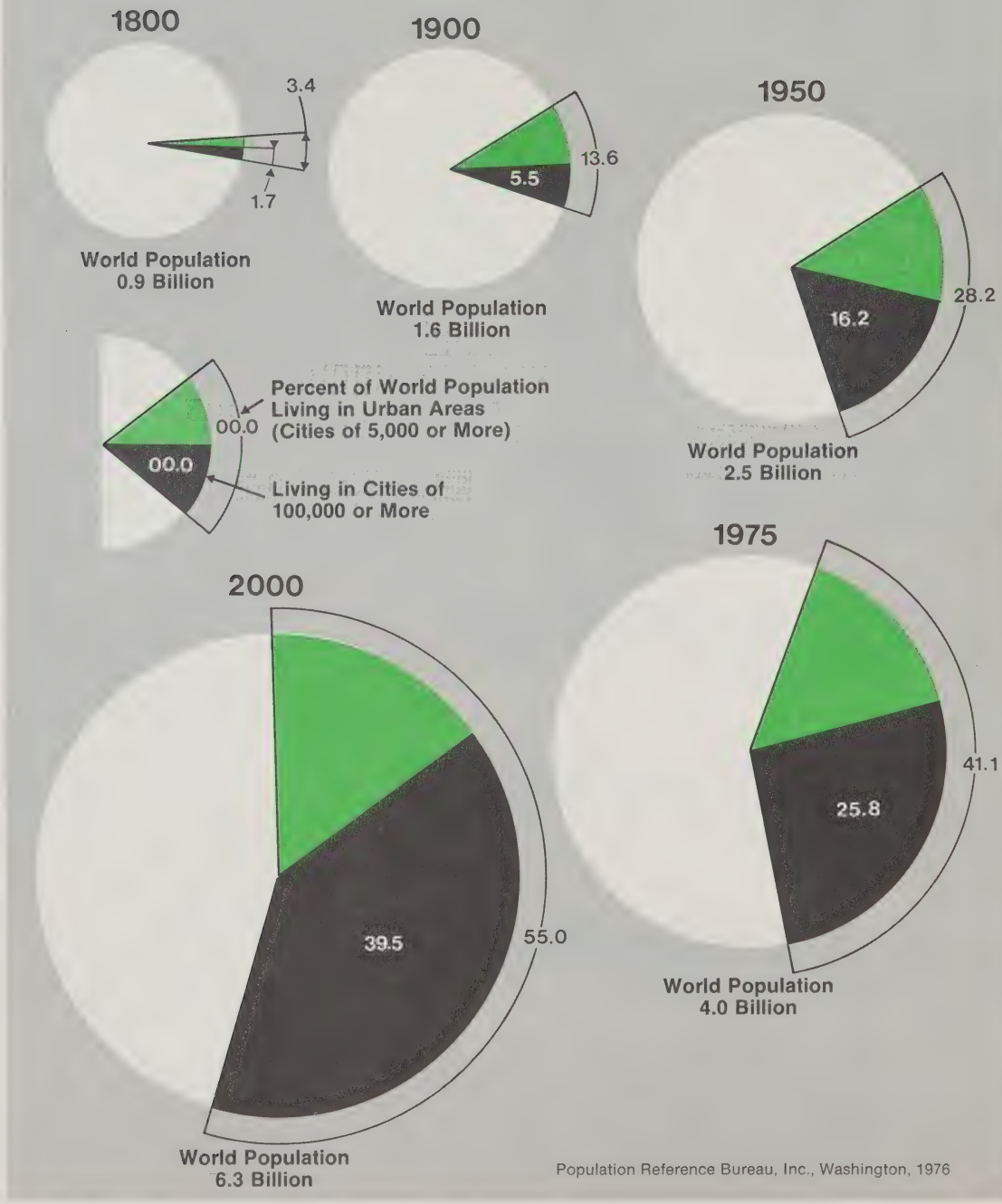
The characteristics of an urban area vary by country. Some countries define any place with a population of about 2,500 or more as urban; others set a minimum population of 20,000. There are no universal standards; in general, each country is considered the best judge of whether a place is described as urban or rural.

The Canadian definition of "urban" includes (a) incorporated cities, towns, and villages with a population of 1,000 or more; (b) unincorporated places with a population of less than 1,000 but with a population density of at least 1,000 per square mile; (c) built-up fringes of (a) and (b) with a minimum population of 1,000 and a density of at least 1,000 per square mile.

In developed countries, urbanization both resulted from and contributed to industrialization during the 19th and early 20th centuries. Increasing job opportunities in cities spurred the mass movement of surplus population away from the countryside. At the same time, migrants provided cheap, plentiful labour for the factories. While migration played a primary role in shifting a large part of the population from rural to urban areas, high death rates in cities slowed growth. The high mortality resulted from poor housing and nutrition, the prevalence of contagious diseases, and the lack of sanitation. Until the middle of the 19th century, deaths exceeded births in many of the larger, industrialized European cities, and migration accounted for as much as 90 per cent of city growth.

The urbanization process of most developing countries in the last 20 years differs sharply from the trend in the developed countries. Medical advances, and the availability of health services, have both helped to reduce the high mortality in many of the developing nations, despite relatively low levels of economic development. Without a similar decline in fertility, both urban and rural areas are experiencing high rates of natural increase (far more births than deaths). In the countryside, the increasing population pressure stretches already scarce resources and opportunities even further. People are forced to move from their rural homes as much to escape from a meagre life in the villages as to seek the promise of better jobs and educational opportunities in the cities. The large numbers of people moving to the cities, coupled with high rates of natural increase, cause some cities to grow by more than seven per cent each year. In fact, many cities will double in population within the next 10 to 15 years.

WORLD URBANIZATION, 1800-2000



Population Reference Bureau, Inc., Washington, 1976

II A (vii)
Total Fertility Rates for Canada and the Provinces: 1921-1974

These charts show changes in total fertility rates for Canada and for all provinces from 1921 to 1976, except for Newfoundland, for which the data were not calculated. (Provincial data for 1976 are unavailable at this writing.) With a few significant variations, most provinces follow the Canadian trend over the period. (Total fertility rates for Quebec were not available until 1926, and consequently the Canadian data begin on that date.)

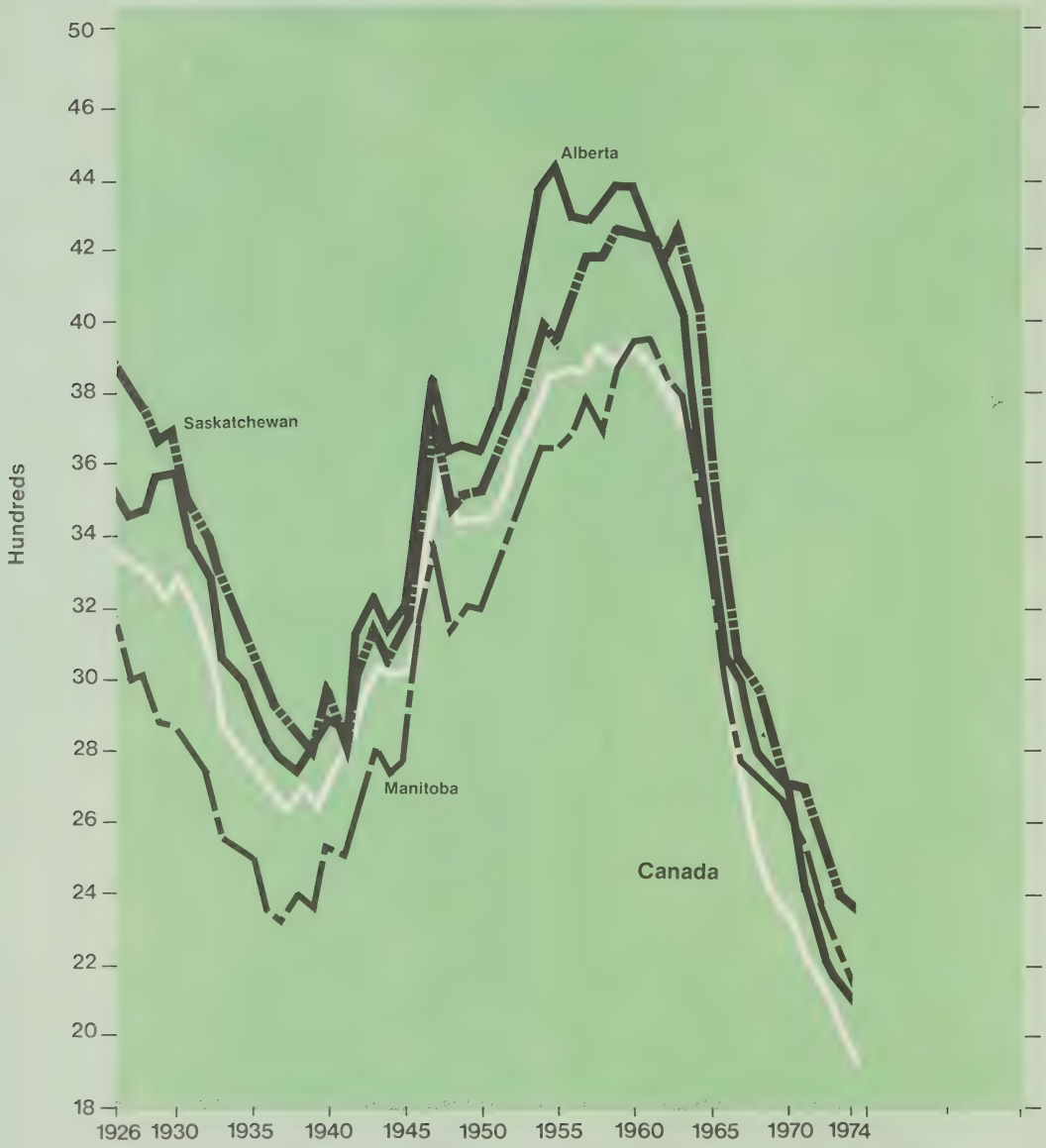
There are three distinct trends in the Canadian fertility pattern: a fall in fertility through the 1920's and 1930's to about 1938; a rise in fertility in 1938, accelerated by the post-war "baby boom", with a peak of 3.9 in 1961; and another fall in fertility from 1961 onwards, reaching the present record low of 1.8 in 1976. As of 1976, the rate of decline in fertility has slightly abated, but there is as yet no indication that it is either stabilizing or likely to reverse its direction.

Among the provinces, there are several interesting variations on the total trend. Ontario and British Columbia had significantly lower rates through the first two stages, while Quebec's was significantly higher. In the third stage, the rates in all three provinces tended at first to converge, but through the late 1960's and 1970's, Quebec's fertility declined consistently at levels somewhat below the national average. The three Maritime provinces experienced significantly higher levels of fertility in the first two stages, with wide variation; in stage three, they have remained slightly higher, but seem now to be converging toward the Canadian average. On the Prairies, Saskatchewan and Alberta had traditionally higher rates in stages one and two; Manitoba's was lower. The Prairie provinces are converging toward the average at a slightly higher rate in the third stage.

The total impression given by these charts is that, in the third stage, all provinces are tending towards the national average. This is characteristic of highly industrialized societies.

TOTAL FERTILITY RATES, CANADA AND THE PROVINCES, 1921-1974

Total Fertility Rates: Canada, Alberta, Saskatchewan and Manitoba, 1921-1974



Statistics Canada, *Vital Statistics*, I, 1974. Cited in Neil Collishaw, *Fertility in Canada*, 1971 Census of Canada, V (Part 1). Ottawa: Statistics Canada, 1976, pp. 9-11. Cat. No. 99-706.

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Total Fertility Rates for Canada and the Provinces: 1921-1974

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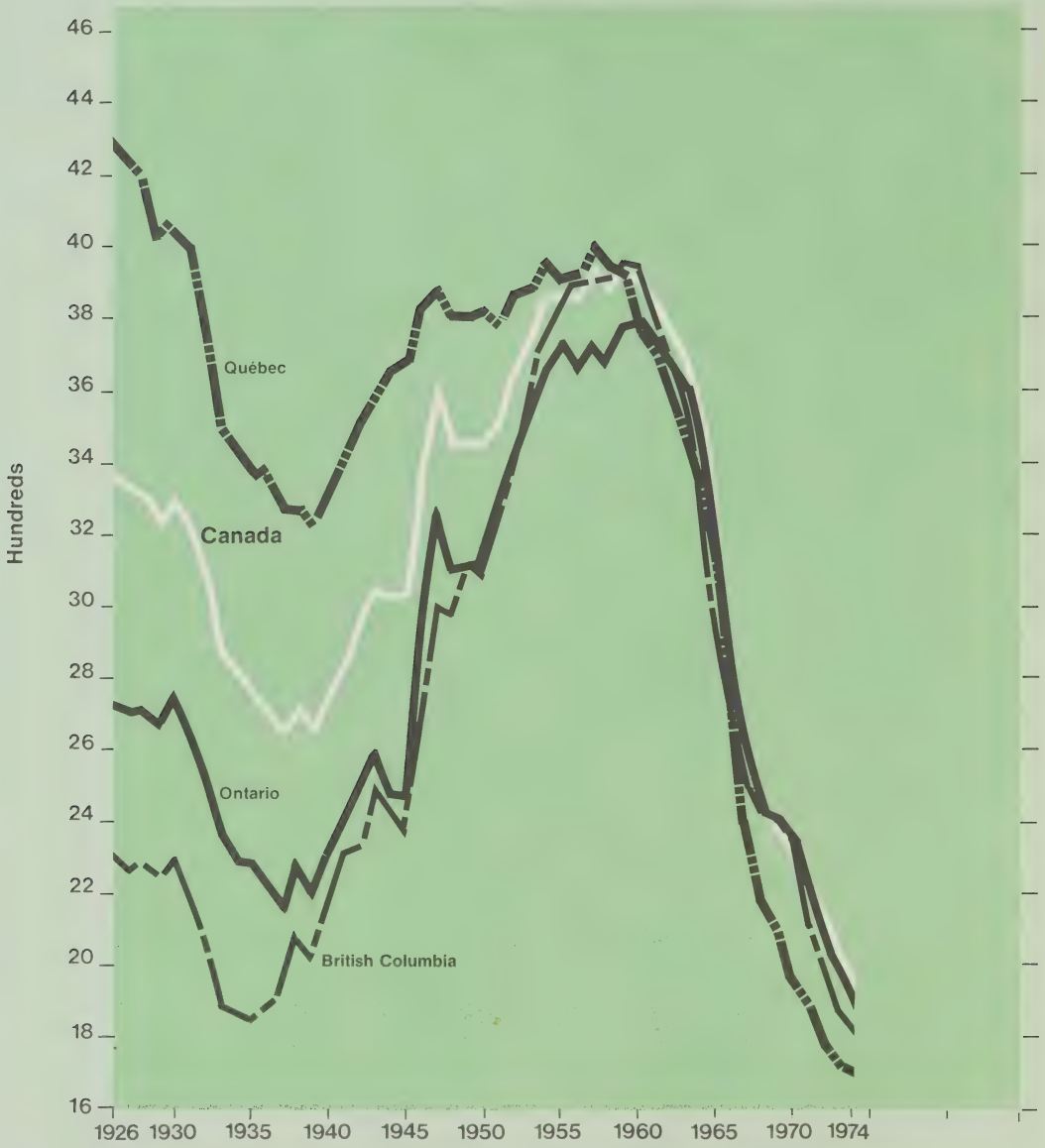
TOTAL FERTILITY RATES, CANADA AND THE PROVINCES, 1921-1974

Total Fertility Rates: Canada, Quebec, Ontario, and British Columbia, 1921-1974



Statistics Canada, *Vital Statistics*, I, 1974. Cited in Neil Collishaw, *Fertility in Canada*, 1971 Census of Canada, V (Part 1). Ottawa: Statistics Canada, 1976, pp. 9-11. Cat. No. 99-706.

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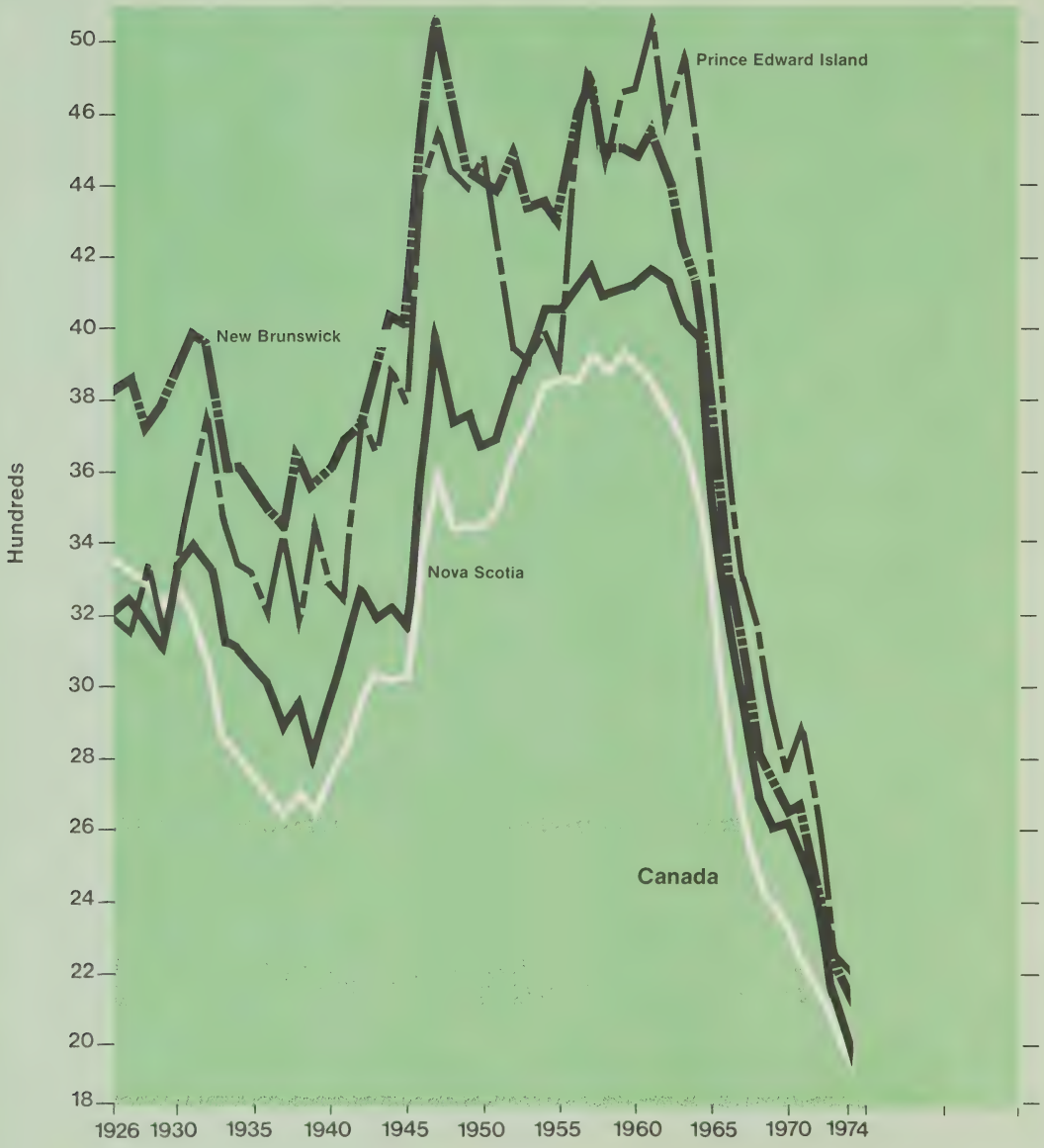
TOTAL FERTILITY RATES, CANADA AND THE PROVINCES, 1921-1974

Total Fertility Rates: Canada and the Maritime Provinces, 1921-1974



Statistics Canada, *Vital Statistics*, I, 1974. Cited in Neil Collishaw, *Fertility in Canada*, 1971 Census of Canada, V (Part 1). Ottawa: Statistics Canada, 1976, pp. 9-11. Cat. No. 99-706.

II A (iv)
Canada: Births and Deaths: By Absolute Numbers and Rates

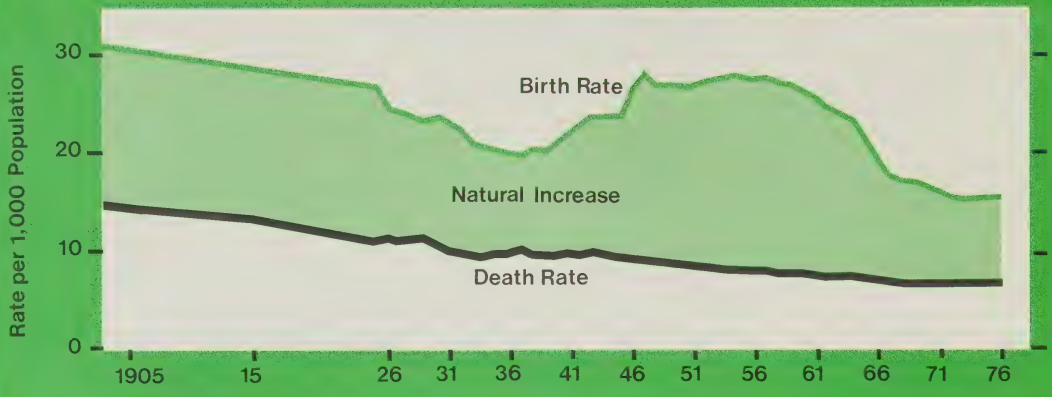
The Canadian birth rate during the early period of European settlement was one of the highest in the world. It started to decline, however, around 1870, and continued its downward trend without interruption until 1940. A reversal of the falling trend in the birth rate began after 1940, and was heightened by the post-war "baby boom". Since 1959, the birth rate has again registered a steady decline. This decline has become less precipitous in the mid-1970's, levelling off at about 16 per thousand.

Because the death rate in Canada is low and the trend has been downward, variations in natural increase must be attributed mainly to changes in birth rates. During 1851-1971, the average natural annual rate of increase was about 17 per thousand (1.7 per cent). The rates were much below this average during 1931-41, and after 1966, when they dropped to about 11 per thousand. By the mid-seventies, they had fallen still further, to eight per thousand (0.8 per cent).

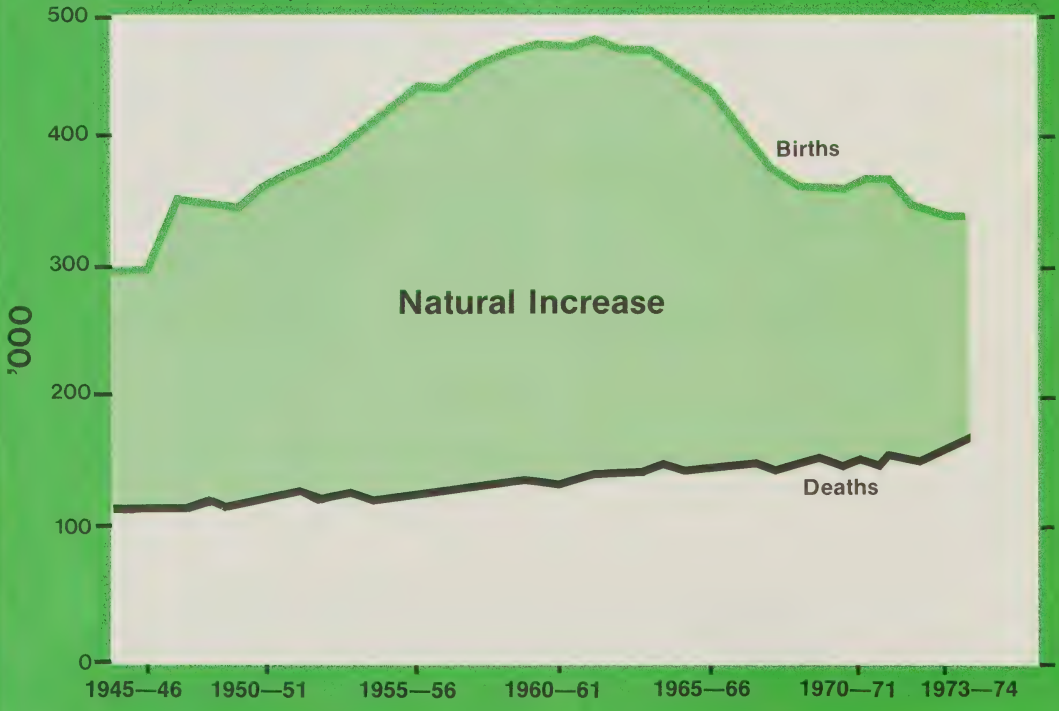
The chart showing births and deaths in Canada since 1946 illustrates the absolute size of the baby boom. Rising to a peak of 479,000 births in 1960-61, it fell to a low of 344,000 in 1973-74, despite an unprecedented increase between 1959-1960 and 1973-1974 in the number of women entering the childbearing years (ages 15 to 49).

CANADA: BIRTHS AND DEATHS: BY RATES AND BY ABSOLUTE NUMBERS

Births, Deaths, and Natural Increase: Rates, 1901-1976



Births, Deaths, and Natural Increase: 1946-1974

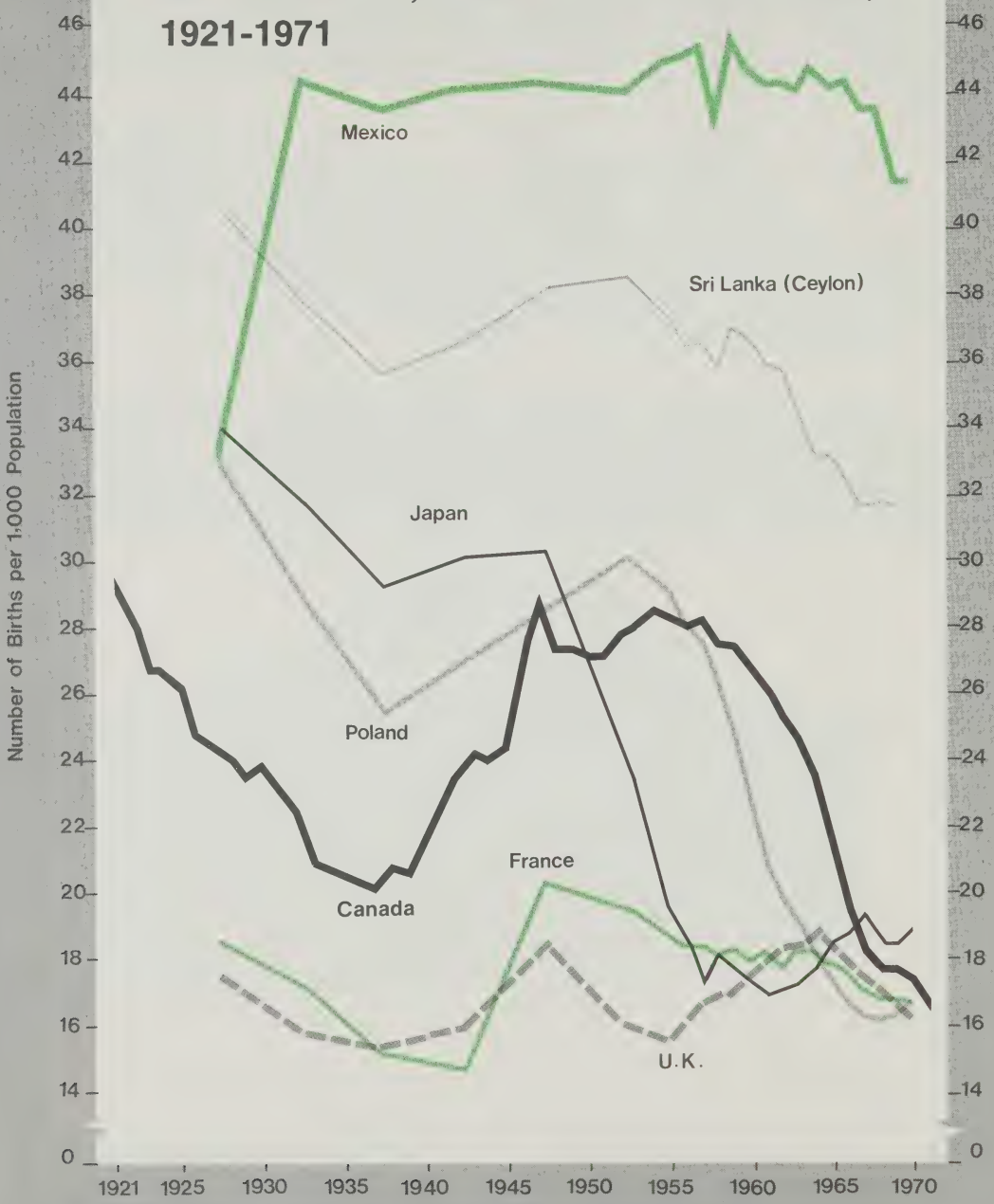


Statistics Canada, *Vital Statistics*, Cat. Nos. 84-001, 84-201 and 84-204.
Post-1971 data derived from special tabulations.

II A (iii)
Birth Rates, Selected Countries: 1921-1971

This chart compares the Canadian birth rate to the birth rates of a few selected countries for which there is reliable national data. It reveals that Canada has occupied a middle position among these countries. Its rate has been generally somewhat higher than that of other industrialized countries such as France and the United Kingdom. It has been, however, much lower than that of some developing nations, such as Mexico and Sri Lanka.

BIRTH RATES, SELECTED COUNTRIES, 1921-1971



(a) Statistics Canada, *Vital Statistics*, I, 1971: (b) United Nations, *Demographic Yearbook*, 1969. Cited in Neil Collishaw, *Fertility in Canada*, 1971 Census of Canada, V (Part 1). Ottawa: Statistics Canada, 1976, p.7. Cat. No. 99-706.

I A (i)
Basic Demographic Data for Canada, January 1 - December 31, 1977

Total population:
23,180,000 (Estimate for Jan. 1, 1977)
23,315,600 (Estimate for July 1, 1977)
23,444,200 (Estimate for Jan. 1, 1978)

Births: 360,340 (Estimated)

Deaths: 169,040 (Estimated)

Natural increase: 191,300

Birth rate: 15.5 births/1000 population

Death rate: 7.3 deaths/1000 population

Rate of natural increase: 8.2/1000 population

Immigration: 114,914

Emigration: 42,014 (estimated by subtraction)

Net immigration: 72,900

Net immigration rate: 3.1/1000 population

Total annual increase in population: 264,200 (approx.)

Rate of population growth: 1.13%

Per Cent of annual growth from natural increase: 71.9%

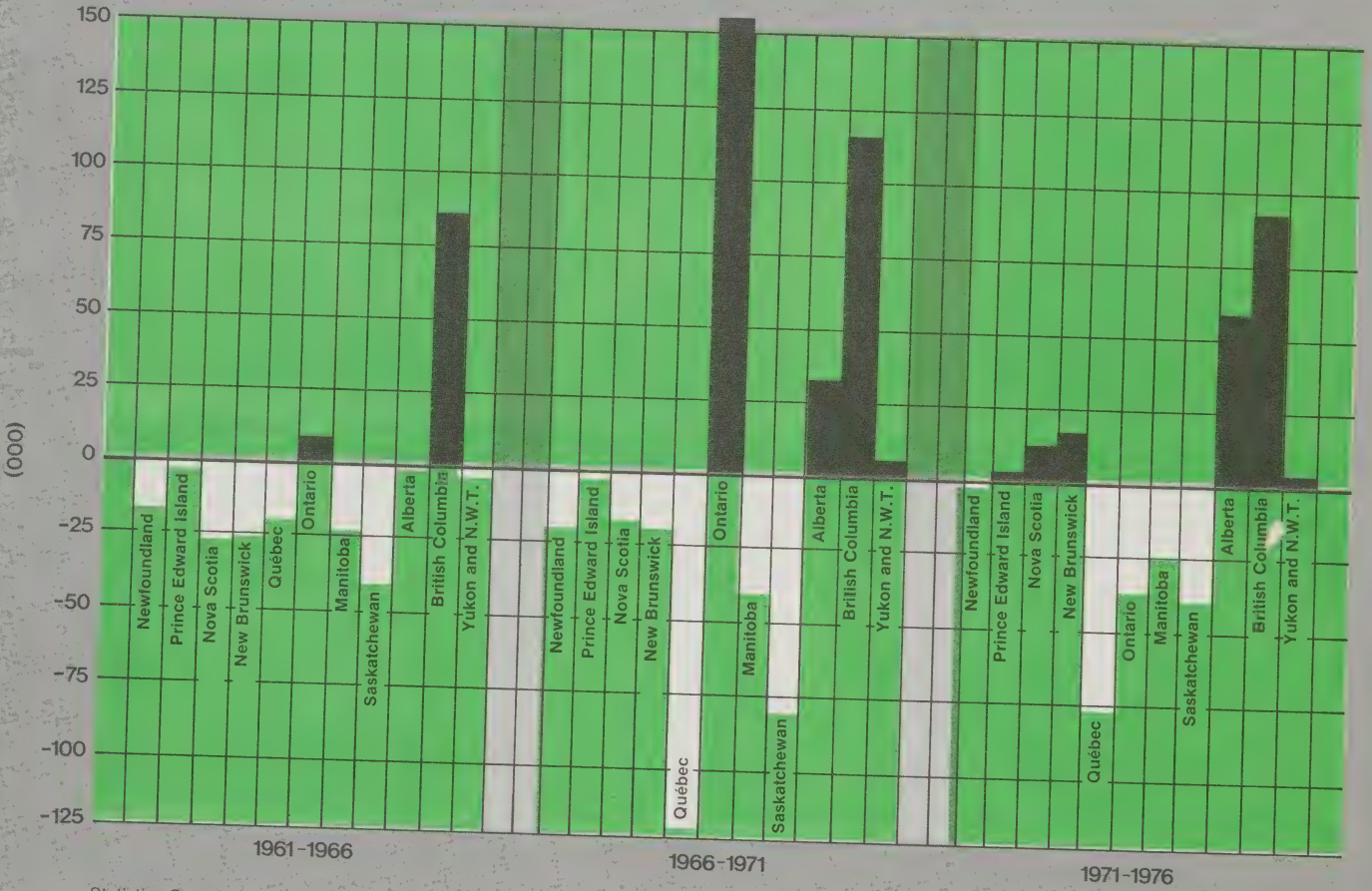
Per Cent of annual growth from net immigration: 28.1%

Doubling time: 61.4 years

Total fertility rate: 1,740 children per 1,000 women aged 15-49 (1.74 estimated)

Sources: *Vital Statistics,* Oct.-Dec. 1977, Statistics Canada, 84-001; *Quarterly Estimates of Population for Canada and the Provinces,* Jan. 1978, Statistics Canada, 91-001; Recruitment and Selection Branch, Canada Employment and Immigration Commission.

NET INTERPROVINCIAL MIGRATION OF CHILDREN AND ADULTS, 1961-1976



Statistics Canada, *International and Interprovincial Migration, 1961-62 to 1975-76*. Ottawa: Statistics Canada, 1977. Cat. No. 91-208.

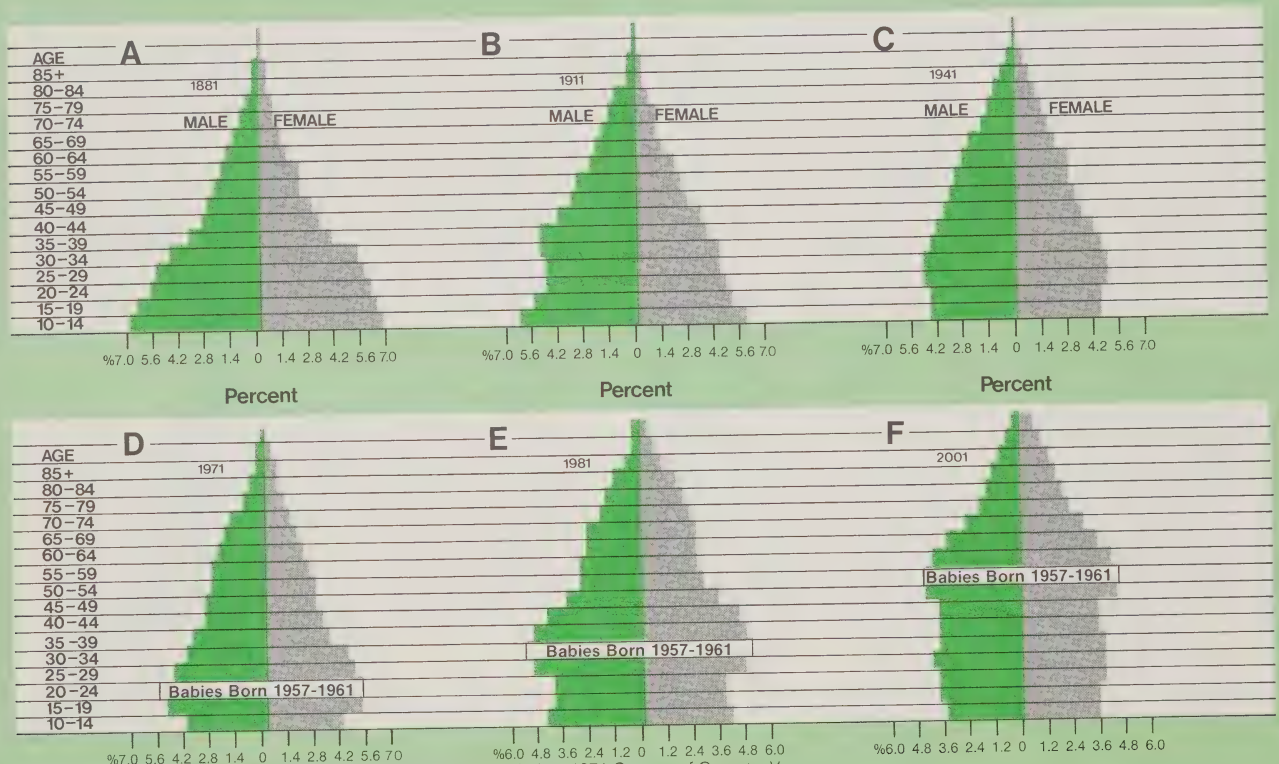
II B (v)
Interprovincial Migration: 1961-1976

This chart illustrates net interprovincial migration over three five-year periods: 1961-1976, 1966-1971, and 1971-1976. Canada does not maintain a permanent population register; up to the present, family allowance records have been used to estimate interprovincial migration. Although this measurement has limitations, some interesting patterns have emerged over the 15-year period.

The Maritime provinces, which were net losers of interprovincial migrants in the 1960's, have become net gainers in the 1971-1976 period. Quebec has been a net loser over the period, but its rate of outflow has diminished somewhat between 1971 and 1976. Ontario, a large net gainer throughout the 1960's, has become a net loser. All three Prairie provinces improved their positions between 1971 and 1976; Saskatchewan had a notable reduction in net outflow, reducing it by more than half, while Alberta more than doubled its inflow during the period. British Columbia continues to attract many interprovincial migrants, although the rate of inflow declined slightly during the 1971-1976 period.

Net interprovincial migration is important to the projection of future provincial population growth. The volatility of interprovincial migration indicates why it is difficult to make projections on a province-by-province basis.

AGE-SEX PYRAMIDS FOR THE CENSUS POPULATIONS OF CANADA, 1881, 1911, 1941, 1971, WITH PROJECTIONS FOR 1981 and 2001



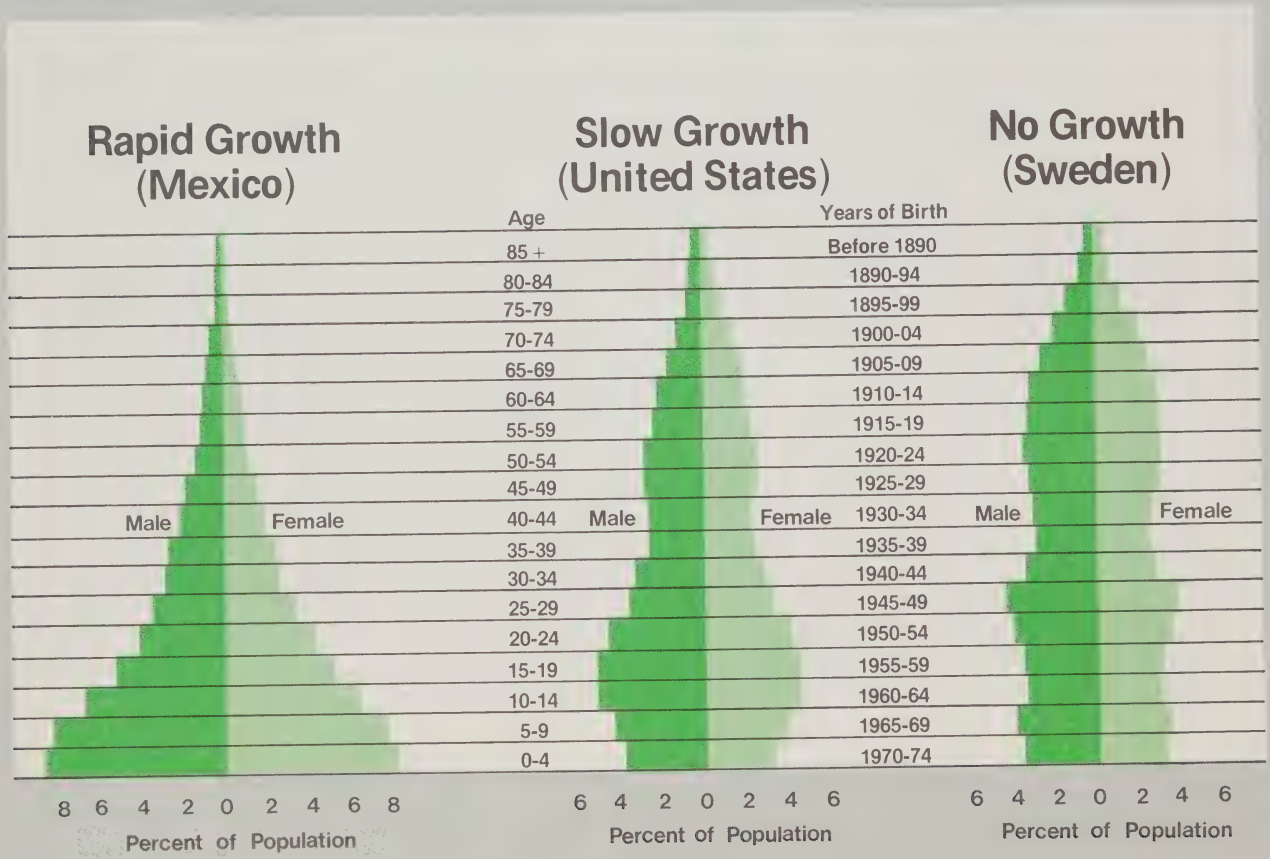
Joseph A. Norland, *The Age-Sex Structure of Canada's Population*, 1971 Census of Canada, V (Part 1), 1976, pp. 57, 59. Cat. No. 99-703.

Statistics Canada, *Population Projections for Canada and the Provinces, 1972-2001*. Ottawa: Information Canada, 1974. Cat. No. 91-514.

II C (ii)
Age-Sex Pyramids for the Census Population of Canada, 1881, 1911, 1941 and 1971, with Projections for 1981 and 2001

The changing age structure of Canada's population over the last century is displayed in the chart. Figure A depicts a stage at which birth rates are considerably higher than death rates. Figure B indicates the impact of mass immigration early in the twentieth century and of World War I deaths on the prime immigration age (males 20-24). The Census pyramids for Figure C show the effect of the Depression on the 1941 age-sex structure, and once again, falling birthrates are in evidence through a contracted base.
The projected population, shown in figures E and F, suggests a considerable decrease in the proportion below 25 and an increase in the age groups above 30. There is also a marked trend toward female dominance in the older age group. The shaded cohort indicates how the shape of the age structure will vary as it moves through time.

AGE-SEX POPULATION PYRAMIDS: RAPID, SLOW, AND NO-GROWTH MODELS



Population Reference Bureau, Inc., Washington, 1976

II C (i)

Age-Sex Population Pyramids: Rapid, Slow, and No-Growth Models

The "age" of a population is easily studied through the use of age pyramids, which provide a visual image of age-sex structure. On the vertical axis are the different age groups (in this case five-year groups also indicated by year of birth). The horizontal bars and numbers show the percentages of people in each age group, by sex. Three representative pyramids are used. Mexico's population is "young"; that is, as a result of high birth rates, there are large numbers of children in the population, giving the pyramid a large base. Death rates in Mexico have also affected the shape of the pyramid. As death rates have fallen, greater numbers of infants and children have survived to the reproductive ages, further increasing the base of the pyramid by the numbers of children they bear. The small proportions of the elderly in Mexico reflect the high death rates of the past. This pattern of rapid population growth owing to high fertility and declining mortality is typical of many developing countries.

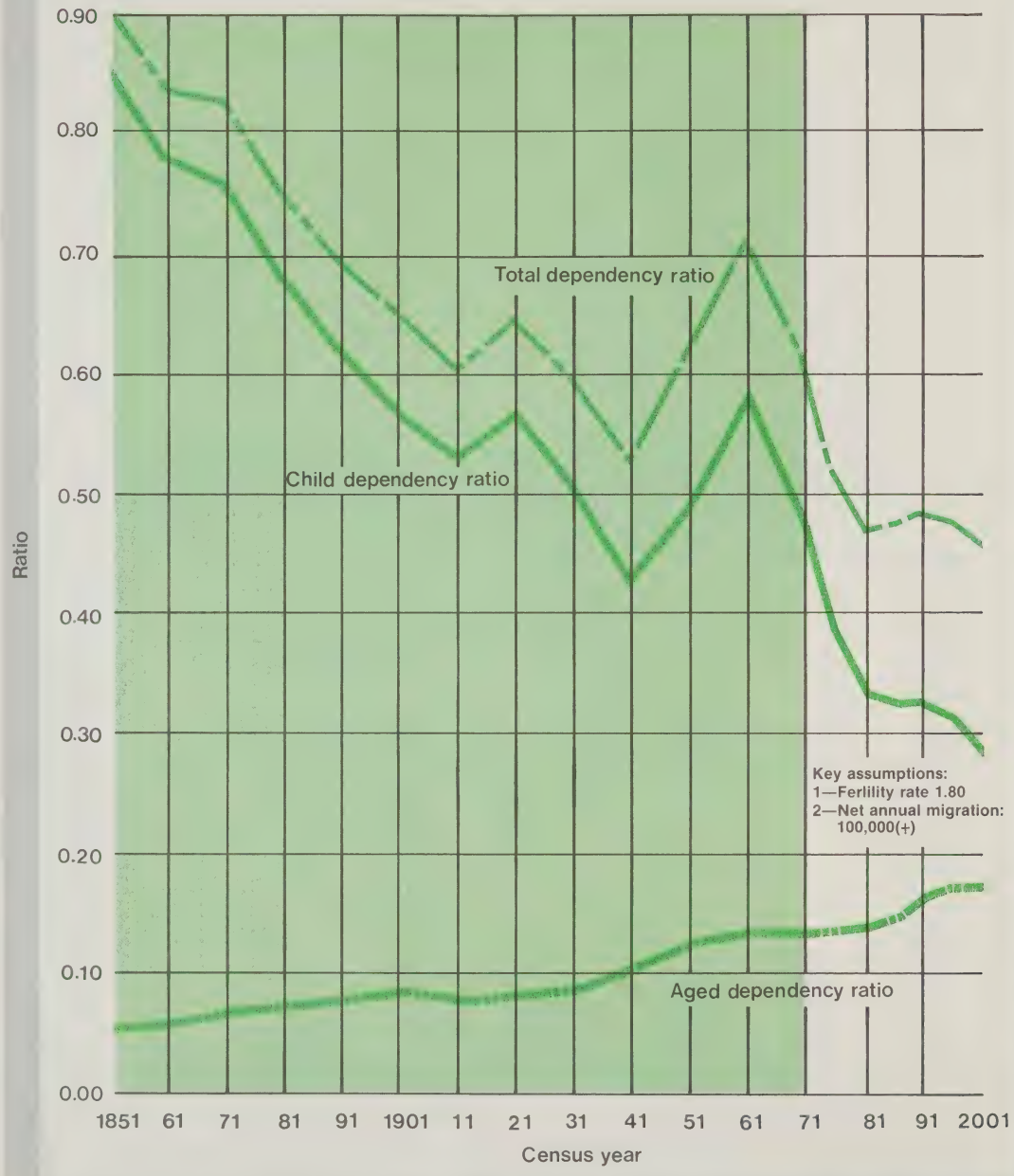
The age-sex pyramid for Sweden, in which the proportions of the population are fairly evenly distributed among all age groups, is representative of a highly industralized society. Sweden's "old" population reflects an extended period of low birth and death rates. This has meant that, while fewer children have been born, most survive through middle age to reach old age. This is an example of a country approaching population stability with no growth.

The United States has a history of relatively high birth rates and has been considered a "young" population compared with those of most European countries. In the past century, however, its population has been growing "older", owing to the long-term downward trend in the birth rate. This trend was interrupted by the postwar baby boom, which has significantly affected the nation's age structure. Members of the baby-boom generation are now adults in their prime years of childbearing. Thus, despite a total decline in fertility, the population will continue to grow moderately for the next 60 to 70 years, assuming that the present fertility rate is maintained.

Other events can change the shape of the pyramid. If death rates rise suddenly for a particular age group, such as that for young men in wartime, the band representing that age group would be smaller. Migration may also affect the age-sex structure: if people of a particular age and sex leave or enter a country, they change the proportions of that age and sex.

A measurement of the "age" of a population commonly used is that of median age. This means that half the population is older than the median age and half is younger. In 1975, the median age of the Mexican population was 16.9 years; in Sweden and the United States, it was 35 and 28.6 years respectively.

CANADIAN DEPENDENCY RATIOS, 1851-1971, WITH PROJECTION TO 2001



Joseph A. Norland, *The Age-Sex Structure of Canada's Population*, 1971 Census of Canada, V (Part 1), 1976, p.27. Cat. No. 99-703.
Statistics Canada, *Population Projections for Canada and the Provinces*, 1972-2001. Ottawa: Information Canada, 1974. Cat. No. 91-514.

II C (iii)

Canadian Dependency Ratios: 1851-1971, with Projection to 2001

Total dependency ratios vary widely from country to country. In 1970, for example, in such developing nations as Nigeria, Bangladesh, and Brazil, the dependency ratio exceeded one dependent-age person of working age. On the other hand, in more developed countries such as Denmark and Japan, the ratio was around .5.

There have been major fluctuations in Canada's total dependency ratio over the past century. From 1851 to 1941, the child dependency ratio fell by more than 50 per cent, from .86 to .42, and the aged dependency ratio doubled, climbing from 0.05 to 0.10. Even so, because of larger decreases in the child dependency ratio, the total dependency ratio fell from .91 to .53. Between 1941 and 1961, the increased fertility of post-war parents caused the total dependency ratio to increase from .53 in 1941 to .71 in 1961. Over the decade of the sixties, with its lower fertility, this level fell to .60 in 1971. One projection of future dependency ratios is presented below. A slight increase in the total dependency ratio is projected for 1981-1991, because the decrease in the child dependency ratio is halted while the aged dependency ratio increases. The falling trend resumes again from 1991-2001, with the total dependency ratio of .453 in 2001 being the lowest ever in Canada.

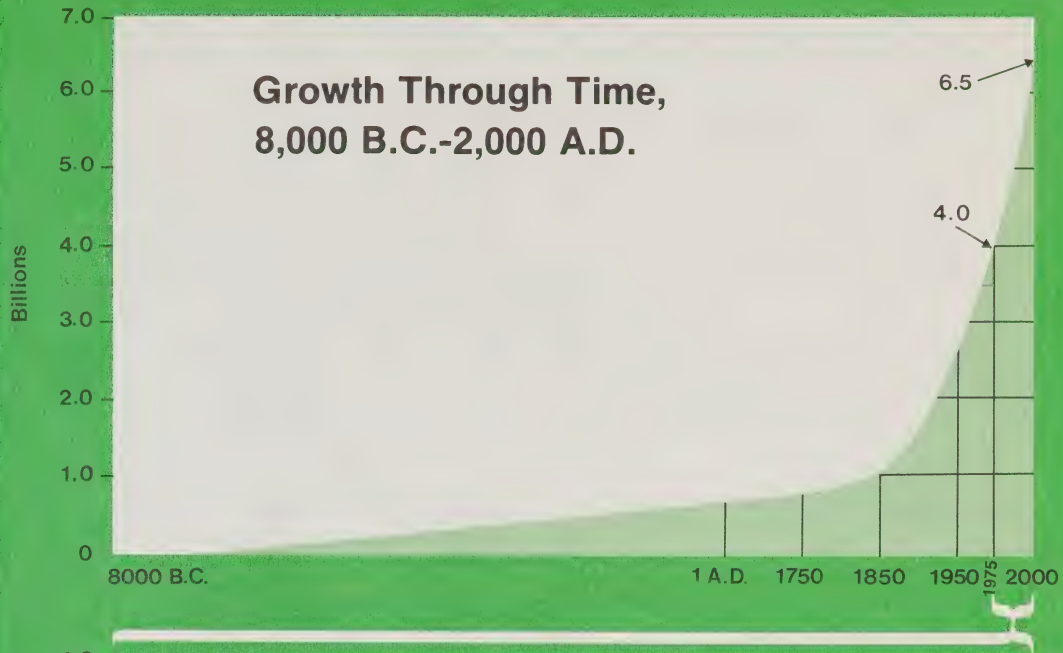
One other interesting trend is the expected rise in the median age. Using the projection given, the median age would rise from 26.3 in 1971 to 35.7 in 2001, an increase of 36 per cent.

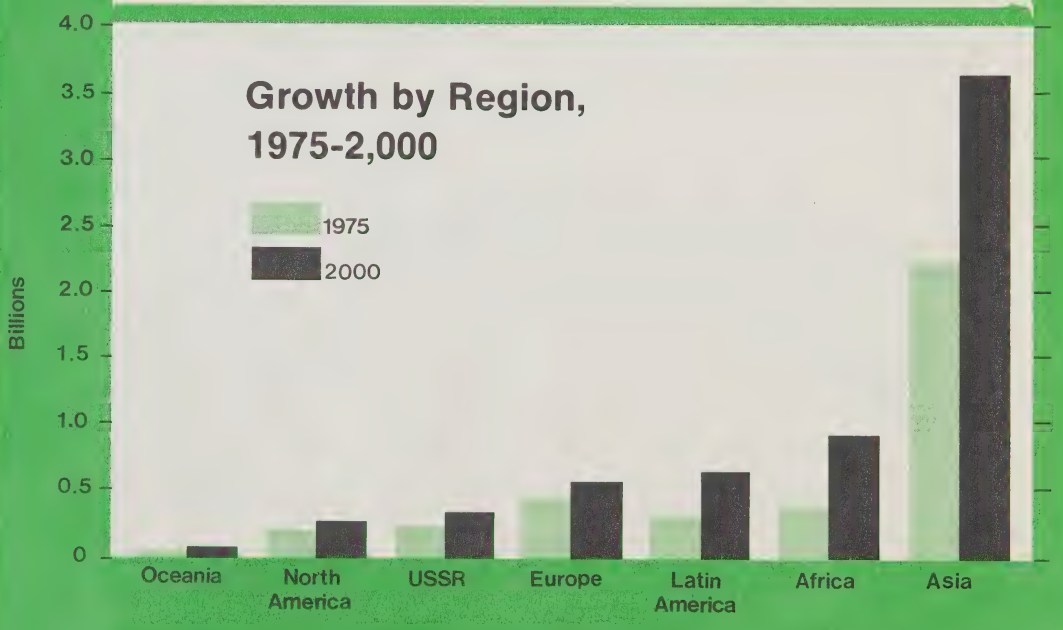
Dependency Ratios: Projection

Year	Child	Aged	Total
1971	.475	.130	.605
1976	.387	.131	.518
1981	.331	.137	.468
1986	.325	.146	.471
1991	.326	.159	.485
1996	.312	.165	.477
2001	.287	.165	.453

Assuming fertility is 1.8 and net immigration is 100,000

WORLD POPULATION GROWTH





Population Reference Bureau, Inc. Washington, 1976.

II A (i)
World Population Growth

In 1975 the world's population grew to over four billion (4,000 million) people. It took about one million years for us to reach the first billion in 1850, another 75 years to double to two billion, and only 50 years to double again to four billion in 1975. Current estimates of world population growth vary from 1.6 to 1.9 per cent and, if these are maintained, the population will again double to eight billion in 37 to 44 years. This rapid increase has been relatively recent in terms of man's history on earth.

The current world population growth rate may not seem high, but when it is applied to the world's large population, it represents an increase of about 200,000 per day, or from 64 to 76 million per year, depending on the estimate used. In other words, each year the world's population grows by approximately the size of three Canadas.

The chart on world population growth by region illustrates clearly the differences in the present size and the future growth of various regions. The 1970-75 average growth rates by region vary from a high of 2.7 per cent for Latin America to a low of 0.6 per cent for Europe.

1970-75 Average Annual Growth Rates for World Regions

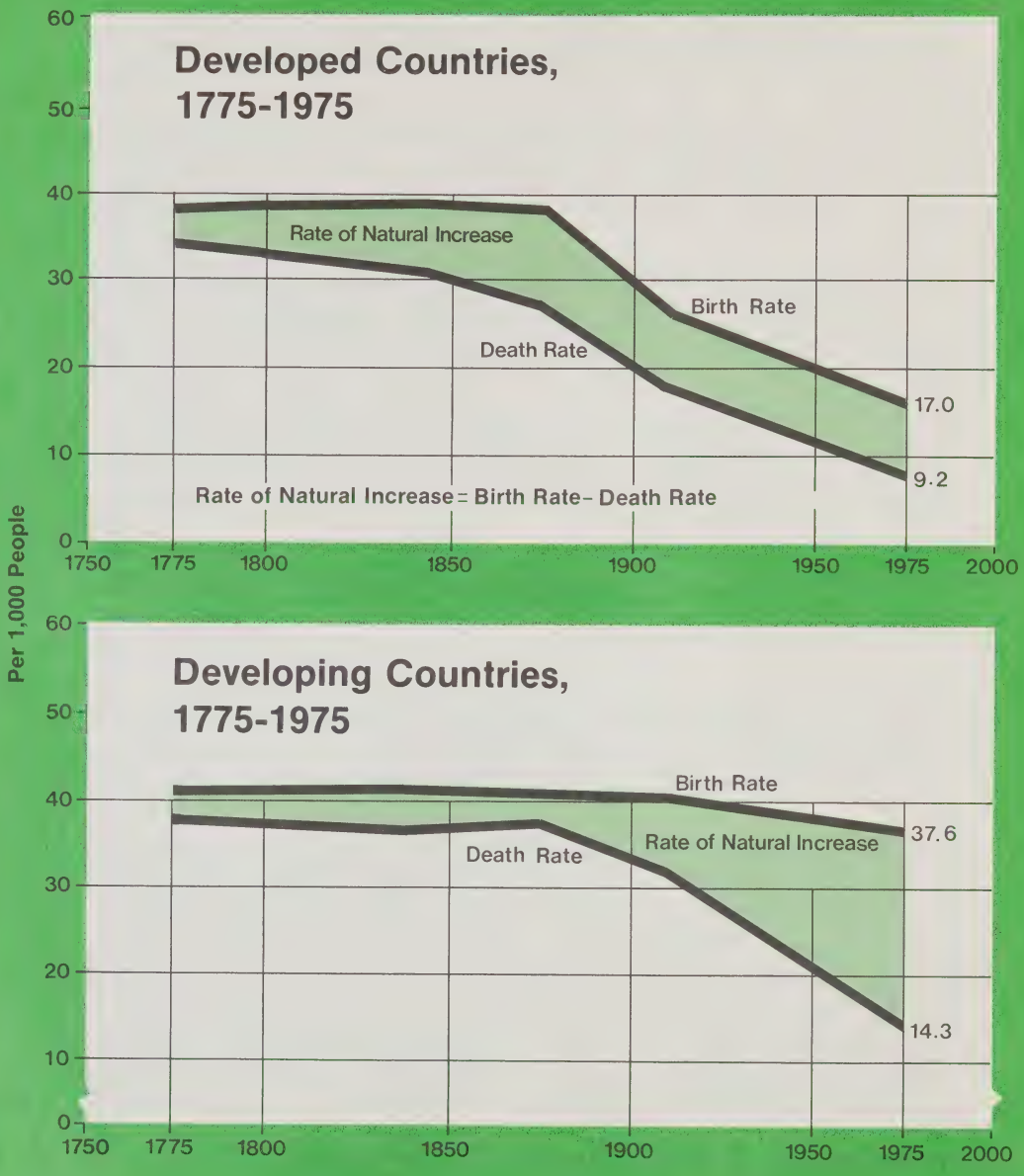
Africa	2.6
Asia	2.1
North America	0.9
Latin America	2.7
Europe	0.6
U.S.S.R.	1.0
Oceania	2.0
World	1.9

Source: *1975 World Population Data Sheet,* Population Reference Bureau.

Population sizes for world regions in the year 2000 are based upon U.N. projections as presented by the Population Reference Bureau. Given current assumptions, world population is expected to increase to 6,253 million by the year 2000. This means that in 23 years the world will be inhabited by 56 per cent more people than in 1977.

The differences between expected increases in the regions are striking. Europe's population is projected to increase by 14 per cent, while Africa's will more than double. The populations of North America, Europe, and the U.S.S.R. will grow by only 19 per cent, in contrast to a 70 per cent increase in Africa, Asia, Latin America, and Oceania. The distribution of the population by region will also change, owing to the different rates of growth. Today, for example, 76 per cent of the world's people live in the developing countries, but by the year 2000, 82 per cent will.

WORLD BIRTH AND DEATH RATES (ESTIMATED)



Population Reference Bureau, Inc., Washington, 1976.

II A (ii)
World Birth and Death Rates (Estimated): Developed and Developing Countries: 1775-1975

Population change affects our lives in a much more immediate way today than it has throughout most of human history. It is estimated that the growth rate was no more than five one-millionths of one per cent a year for the first half million years of man's existence. After the middle of the 17th century, world population began to increase more rapidly. By the Industrial Revolution, from 1850 to 1900, the annual growth rate was 0.5 per cent. Today, at a rate of growth of 1.9 per cent a year (Population Reference Bureau estimate), the world's population will double by 2010 from its present 4.1 billion to 8.2 billion.

Throughout most of human history, until the Industrial Revolution was well under way, birth rates around the world were high, averaging between 38 and 42 per thousand. Hunger and disease meant that death rates were also high, around 25 to 38 per thousand, and that many infants did not survive to reach parenthood. High birth rates thus served merely to do little more than maintain existing numbers; this resulted in low levels of population growth. In the chart this is shown by the narrow difference between birth and death rates in 1775 for both the developed and the developing countries.

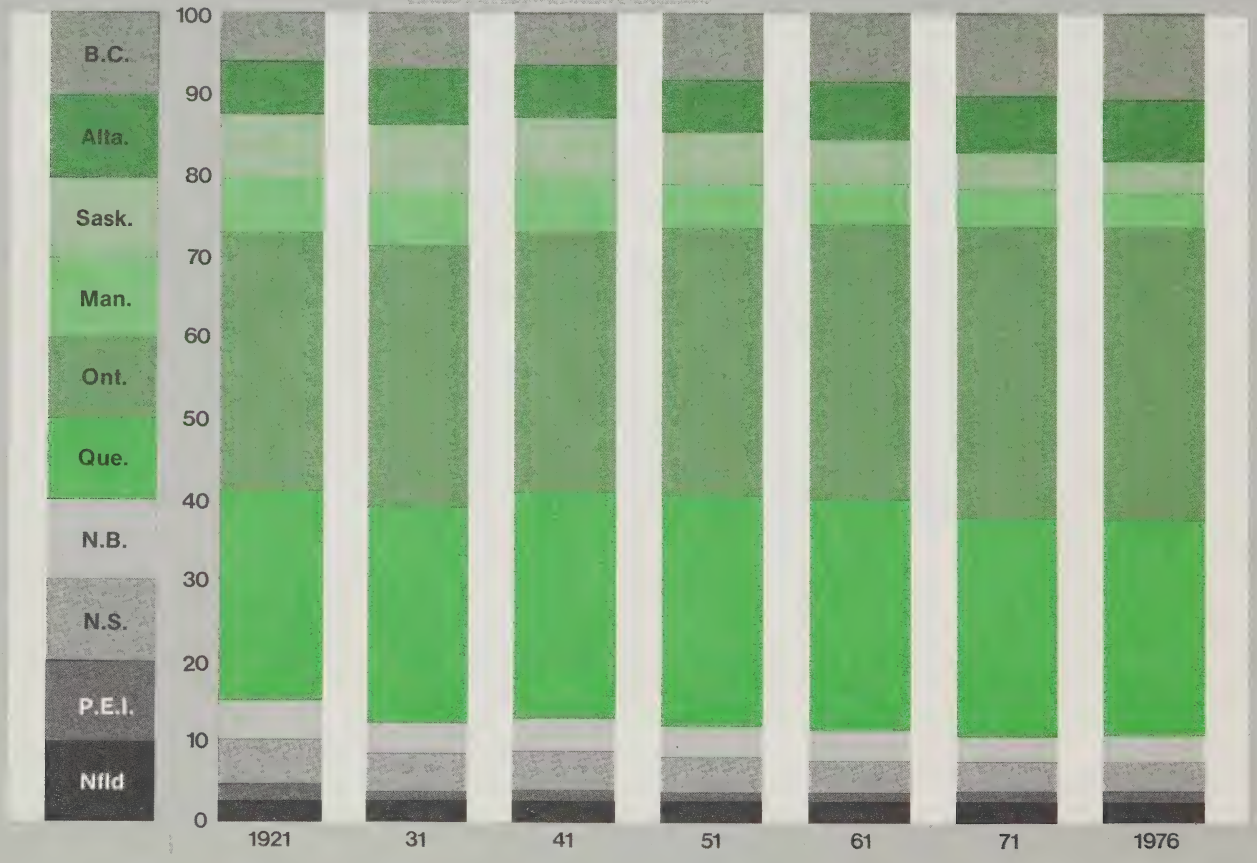
Over the past century, Western European countries, the United States, Canada, Japan, Australia, and New Zealand have developed from traditional, agricultural economies to industrial, urban ones. During that time former high levels of fertility and mortality slowly declined to the low levels that characterize these countries today. Whatever population growth occurred was easily absorbed by their expanding industrial economies.

Demographers refer to the gradual shift of birth and death rates from high to low levels as the demographic transition, which has tended to follow a pattern with three distinct states. During the first, death rates fall from relatively high levels owing to the introduction of modern medical practices and improved sanitation and standards of nutrition. The second stage is characterized by high birth rates and relatively low death rates; this is a period of rapid population growth. The third stage occurs when fertility decreases to close the gap between birth and death rates, resulting in slower rates of population growth.

In the developing nations of Asia, Africa, and Latin America, the demographic transition has not yet happened. Effective public health and sanitation measures have decreased mortality in most of the developing nations. Despite widespread poverty and inadequate living conditions, mortality has, in fact, dropped much more abruptly than it did earlier in the developed nations. There has, however, still been no dramatic decline in fertility. The result is a rapid increase in population in the developing countries.

Attaining lower levels of fertility appears to be closely associated with a country's degree of development. Attitudes about family size change slowly as a society becomes more urbanized and industrialized. The traditional role of the family as the center of employment, economic security, education, and recreation is altered drastically in urban areas. Increasing costs of feeding and educating children, as well as changing perceptions of work and the education of both men and women, seem to foster attitudes favouring small families. Because of the long-term nature of these changes, the developing nations will likely experience rapid population growth for an extended period—at least until the level of social and economic development improves significantly.

PERCENTAGE DISTRIBUTION OF POPULATION BY PROVINCE, 1921-1976



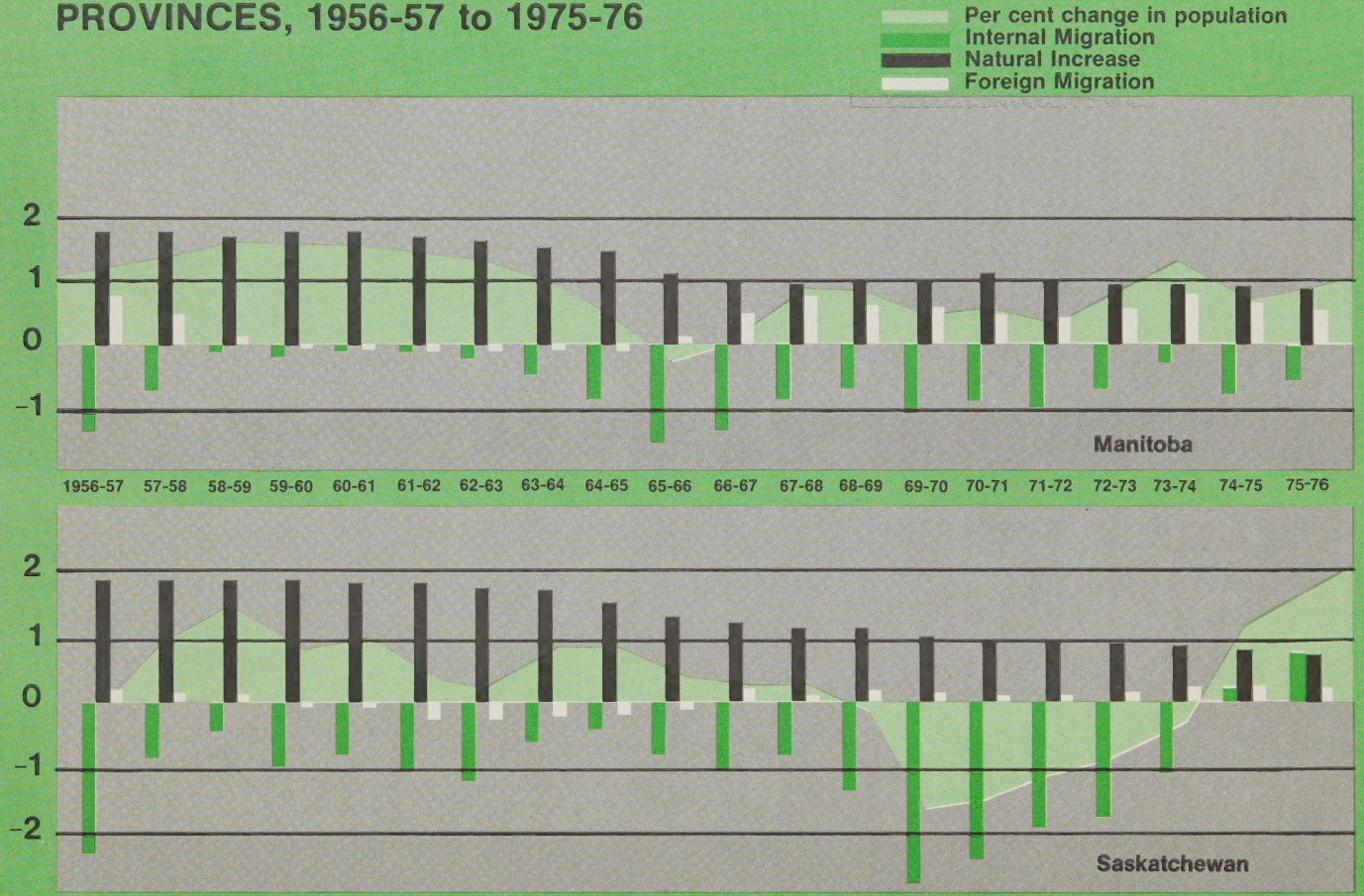
For 1921-1971: calculated from *Vital Statistics, 1973, I: Births*, p.1.
For 1976: calculated from *Quarterly Estimates of Population for Canada and the Provinces.* Ottawa: Statistics Canada, January, 1977.

II B (iii)
Percentage Distribution of Population by Province: 1921-1976

Ontario and Quebec are the dominant provinces during this period. In 1921, they represented 58.5 per cent of the Canadian population; in 1976, 63.1 per cent. But Quebec's share has been falling continuously since 1951, while Ontario's has been increasing continuously since 1941.

Saskatchewan, Manitoba, Nova Scotia, and Prince Edward Island have all had declining proportions of the population, with the largest drop in Saskatchewan, whose proportion fell from 8.16 per cent in 1931 to 4.0 per cent in 1976. Whereas in 1921, just under two thirds of Canada's population resided in Ontario, Quebec, and British Columbia, by 1976 this proportion had grown to almost three quarters.

ANNUAL GROWTH RATES AND COMPONENTS BY PROVINCES, 1956-57 to 1975-76



Special tabulation by Population Estimates and Projections Division, Statistics Canada. Cited in Canada. Department of Manpower and Immigration, *Internal Migration and Immigration Settlement*. Ottawa: Information Canada, 1975, pp. 26-28.

II B (ii)
Annual Growth Rates and Components by Provinces: 1956-57 to 1975-76

The chart shows the annual contributions which net immigration, net interprovincial (internal) migration, and natural increase have made to the growth of provinces in Canada from 1956-57 to 1975-76.

Manitoba:

Manitoba has an average annual growth of .9 per cent over the period. Natural increase was dominant throughout the first 10 years, while in the more recent decade net immigration played an increasing role as natural increase declined. Throughout the period net internal migration has been negative.

Saskatchewan:

Net losses through internal migration have been dominant in Saskatchewan over the 20-year period. This has meant that the average annual rate of growth was only .24 per cent, and, in fact, that it was negative from 1968-69 to 1973-74. The recent alteration in this trend meant that the 1974-75 and 1975-76 rates averaged 1.54 per cent. Evidence indicates that the reversal is being maintained through 1977.